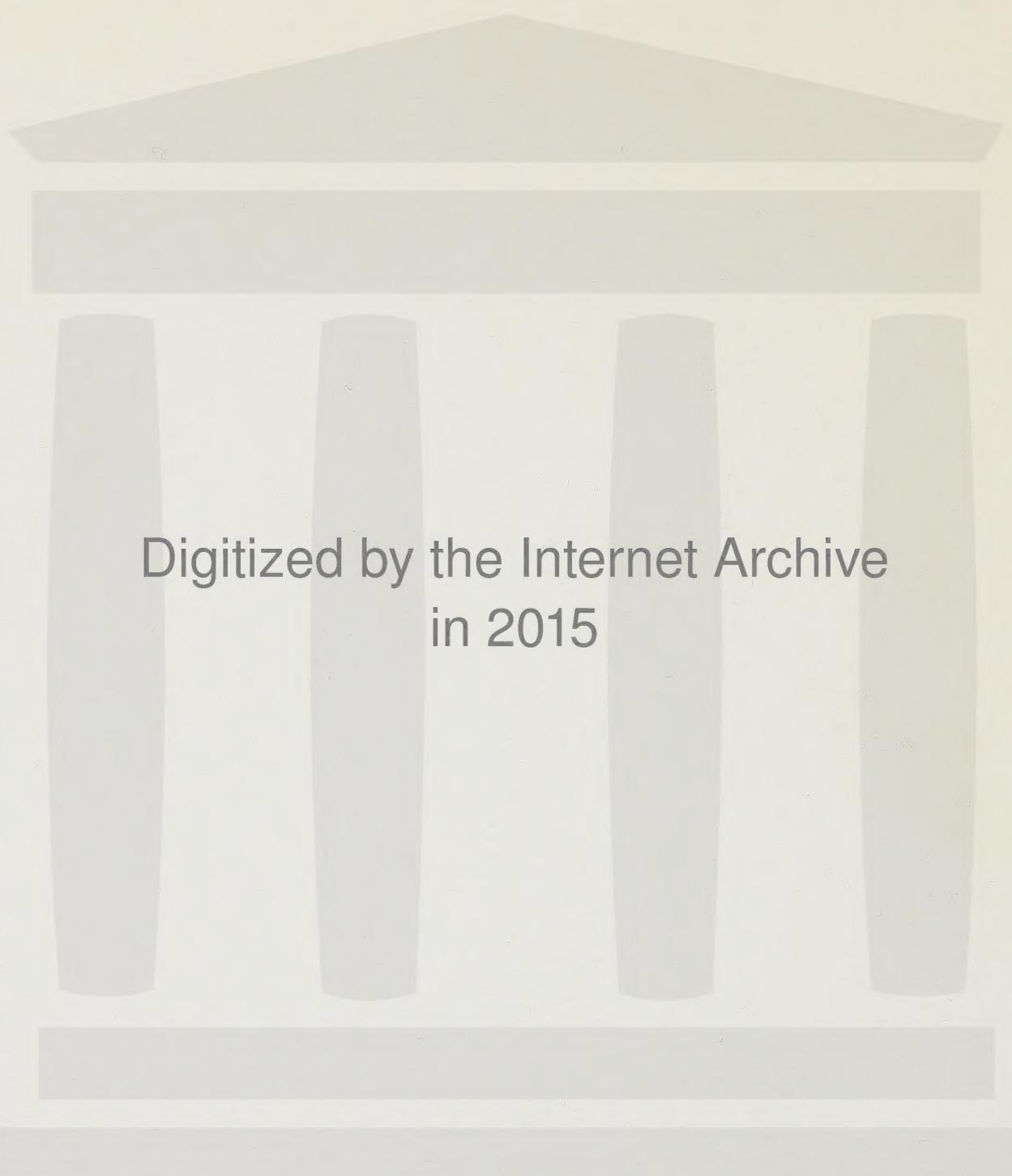


1.853

Alberta Research Council

Publications list

ALBERTA
RESEARCH
COUNCIL



Digitized by the Internet Archive
in 2015

<https://archive.org/details/abresearchcouncil1986>

JUN - 6 1986

Alberta Research Council

Publications list

Revised 1986

**Copies of this report are
available from:**

Alberta Research Council
Publications Sales
250 Karl Clark Road
Edmonton, Alberta
Canada

Phone (403)450-4117

Edmonton mailing address:

Alberta Research Council
Publications Sales
PO Box 8330
Postal Station F
Edmonton, Alberta
Canada T6H 5X2

Alberta Research Council
Publications Sales
3rd Floor
6815 - 8 Street NE
Calgary, Alberta
Canada T2E 7H7

Phone (403)297-2600

Contents

Obtaining Research Council publications	iv
How to use this publications list	1
Bulletins	2
Reports	4
Annual Reports	4
Atmospheric Sciences Reports	4
Field Program Reports	5
Coal Reports	5
Earth Sciences Reports	5
Economic Geology Reports	10
Exploratory Soil Survey Reports	10
Open File Reports	10
River Engineering and Subsurface Hydrogeology Reports	21
Uncategorized Reports	21
Information Series	24
Contribution Series	27
Earth Sciences Notes	74
Natural Resource Notes	74
Memoirs	75
Mimeographed Circulars	75
Maps	75
Bedrock topography maps	75
General geology maps	76
Hydrogeology maps	78
Surficial geology maps	80

Obtaining Research Council publications

Publications can be obtained by mail from either of the following offices:

Alberta Research Council
Publications Sales
PO Box 8330
Postal Station F
Edmonton, Alberta
T6H 5X2

Alberta Research Council
Publications Sales
3rd Floor
6815 - 8 Street NE
Calgary, Alberta
T2E 7H7
Phone (403)297-2600

If price is quoted for publications, prepayment is required. Make cheque or money order, in Canadian funds only, payable to "Provincial Treasurer - Alberta Research Council." Publications not priced are generally complimentary.

Out-of-print publications and Open File Reports will be photocopied by the Editing and Publications Sales Department and charged at the rates established for those individual publications. Copies of Open File Reports or the Contribution Series can be obtained only at the Edmonton offices.

Reports can also be viewed and purchased at the Calgary address or, in Edmonton, at:

Alberta Research Council
Publications Sales
250 Karl Clark Road
Edmonton, Alberta
Phone (403)450-4117

How to use this publications list

The Alberta Research Council has several series of research publications, including Bulletins, Reports, Information Series, and Maps. Some categories, such as Exploratory Soil Survey Reports, have been discontinued, whereas others, such as the Coal Report series, have been added recently.

This publication outlines the various categories of Research Council publications, and then lists all reports and maps according to their series. People wishing to locate specific articles should first determine which category it belongs to and identify its number (for example, 75-2) if possible. If it is not in the listing for that series, it may appear in a related series. For example, a report on some aspects of earth science could be found in several categories, including Bulletins, Earth Sciences Reports, Earth Sciences Notes, Information Series, Memoirs, Reports, Economic Geology Reports, and Open File Reports.

For information on where to view Research Council publications, or how to purchase them, see p. iv.

The following descriptions of the various series should help to identify the category to which a publication belongs.

Bulletins

- major, substantive reports
- generally a comprehensive publication on an area or a topic
- published since 1958
- numbered sequentially

Reports

During the early years of the Research Council, many reports from various subject areas were simply designated as "Reports," although they were subsequently listed in categories such as Earth Sciences Reports. To find a publication that is designated "Report," check the report series to which it probably belongs, according to its subject. The numbering system used in each series may help here. If the report cannot be found in one of the subject categories, check the listing of uncategorized reports.

Annual Reports

- annual reports of the Research Council since 1965
- before 1965, they were listed as "Reports"
- identified by calendar year

Atmospheric Sciences Reports

- reports primarily of the Alberta hail project
- published since 1970
- numbered by year-number (e.g. 78-2)

Coal Reports

- reports describing coal processing research and characteristics of Alberta coal deposits
- published since 1984
- numbered by year-number (e.g. 84-2)

Earth Sciences Reports

- reports on geology, coal geology, soil surveys, and hydrogeology
- generally restricted to a map area or limited to an aspect of a broader topic
- published since 1955
- numbered by year-number (e.g. 80-2)
- before 1977, they were called "Reports", but can be distinguished from uncategorized reports by their numbering system

Economic Geology Reports

- reports of mineral compositions and properties of soils and rocks in Alberta
- published since 1971
- numbered sequentially

Exploratory Soil Survey Reports

- reports and maps of soils in several areas of Alberta
- published only from 1957 to 1964
- numbered by year-number (e.g. 64-2)

Open File Reports

- unpublished manuscripts
- prepared since 1942
- numbered by full year and number (e.g. 1982-2)

River Engineering and Subsurface Hydrogeology Reports

- three reports, starting in 1962
- numbered by year-number (e.g. 70-1)

Uncategorized Reports

- general reports, including annual reports before 1965
- published from 1920 to 1964
- numbered sequentially, 1 to 86

Information Series

- indexes, symposia proceedings, and reports of applied studies
- published since 1959, but previously published as Mimeographed Circulars (1947-1959)
- numbered sequentially, starting at No.30 (previous issues were Mimeographed Circulars)

Contribution Series

- papers not published by the Research Council but submitted by members of the Research Council to professional societies or journals
- photocopies are available
- numbered sequentially

Earth Sciences Notes

- preliminary typescript reports, less substantive than Earth Sciences Reports
- prepared since 1977
- numbered by year-letter (e.g. 81-A)

Natural Resources Notes

- preliminary typescript reports, less substantive than Atmospheric Sciences Reports
- prepared since 1980
- numbered by year-number (e.g. 80-1)

Maps

- four categories: bedrock topography, general geology, hydrogeology, and surficial geology
- catalogued by category and title
- frequently accompany a report

Memoirs

- two reports, published in 1959 and 1960
- numbered sequentially

Mimeographed Circulars

- now under Information Series

Aside from using this publications list, people interested in specific reports or subjects may use some of the available indexes. Useful ones include:

Author and Subject Indexes, Alberta Research Council Publications

- complete listing of all Alberta Research Council publications indexed by keywords, authors, and publication series, updated periodically
- available online through SPIRES at the University of Alberta and on hard copy through the Editing and Publications Department, 5th Floor, 4445 Calgary Trail South, Edmonton, Alberta, 438-1666 \$50.00

Alberta Oil Sands Index

- available online through SPIRES at the University of Alberta
- includes Canadian, United States and foreign periodicals, patent agencies, government agencies, conferences, and other publications
- includes a keyword index
- two volumes of selected abstracts on bitumen recovery and processing (see Information Series No. 71 and 72)
- indexes and abstracts available from:

Alberta Oil Sands Information Centre
6th Floor, 10010 - 106 Street
Edmonton, Alberta, Canada
T5J 3L8
(403)427-8382

- there is a \$30.00 per hour fee to search the database

SWERP Index

- available online through SPIRES at the University of Alberta and on hard copy at the Cameron Library, University of Alberta
- see Information Series No. 83

Bulletins

1	Aerial photographic interpretation of Precambrian structures north of Lake Athabasca, Alberta. 1958. Godfrey, J.D.; 19 pages, 1 figure, 1 plate, 1 map (scale 1 in to 2 mi). mf \$4.00	8	Groundwater resources of the City of Calgary and vicinity. 1961. Meyboom, P.; 71 pages, 22 figures, 1 plate, 9 tables, 1 map NTS 82I, 82J, 82O and 82P (scale 1:50 000). mf \$9.00
2	Part I. Lower Cenomanian Foraminifera from Peace River area, western Canada. Stelck, C.R., Wall, J.H., Warren, P.S. Part II. Lower Cenomanian Ammonoidea and Pelecypoda from Peace River area, western Canada. 1958. Warren, P.S., Stelck, C.R.; 51 pages, 2 figures, 1 table, 16 plates. \$3.00	9	Sedimentary magnetite deposits of the Crowsnest Pass region, southwestern Alberta. 1961. Mellon, G.B.; 92 pages, 27 figures, 12 tables. \$3.00
3	Precambrian basement features in northern Alberta. 1958. Green, R.; 12 pages, 2 figures. \$3.00	10	Mississippian Foraminifera of the southern Canadian Rocky Mountains, Alberta. 1963. McKay, W., Green, R.; 49 pages, 4 figures, 12 plates. \$3.00
4	The clay mineralogy and chemistry of the Bearpaw Formation of southern Alberta. 1959. Byrne, P.J.S., Farvolden, R.N.; 44 pages, 5 appendixes, 5 figures, 4 tables. \$3.00	11	Lower Mississippian ostracodes from the Banff Formation, Alberta. 1963. Green R.; 237 pages, 23 figures, 17 plates, 13 tables. \$3.00
5	Air photographs of Alberta. 1960. Gravenor, C.P., Green, R., Godfrey, J.D.; 39 pages, 45 air photographs, 5 diagrams. \$15.00	12	Early contributions to the groundwater hydrology of Alberta. 1963. Farvolden, R.N., Meneley, W.A., LeBreton, E.G., Lennox, D.H., Meyboom, P.; 123 pages, 32 figures, 14 tables. mf \$17.50
6	Upper Cretaceous Foraminifera from the Smoky River area, Alberta. 1960. Wall, J.H.; 34 pages, 1 chart, 1 figure, 5 plates, 1 table. \$3.00	13	Groundwater geology and hydrology of east-central Alberta. 1963. LeBreton, E.G.; 64 pages, 5 appendixes, 27 figures, 1 table, 2 maps (NTS 73D, 73E, 73L, 83A, 83H, 83I; scale 1 in to 4 mi and 1 in to 8 mi). mf \$9.00
7	Occurrence and stratigraphy of some gypsum and anhydrite deposits in Alberta. 1961. Govett, G.J.S.; 62 pages, 21 figures, 14 tables. \$3.00	14	Criteria for differentiating the McMurray and Clearwater Formations in the Athabasca oil sands. 1963. Carrigy, M.A.; 31 pages, 9 figures, 9 tables. \$3.00

15	Microflora of the Lower Cretaceous Mannville Group, east-central Alberta. 1964, reprinted 1984. Singh, C.; 239 pages, 1 appendix, 13 figures, 29 plates, 6 tables. \$20.00	31	Hydrogeology of Red Deer and vicinity, Alberta. 1975. Gabert, G.M.; 100 pages, 3 appendixes, 45 figures, 7 tables. \$3.00
16	Geology and groundwater resources of the Peace River district, northwestern Alberta. 1966. Jones, J.F.; 142 pages, 5 appendixes, 29 figures, 19 tables, 2 maps (NTS 83M, 83N and 84C, 84D, scale 1 in to 8 mi). mf \$25.00	32	Urban geology of Edmonton. 1975. Kathol, C.P., McPherson, R.A.; 61 pages, 1 appendix, 45 figures, 3 plates, 8 tables, 1 map (NTS 83H scale 1:250 000), (MML 80-1193). \$10.00
17	Groundwater geology, movement, chemistry and resources near Olds, Alberta, Canada. 1966. Toth, J.; 123 pages, 3 appendixes, 49 figures, 3 tables. \$3.00	33	Hydrogeology of the Tri-Creek Basin. 1976. Currie, D.V.; 67 pages, 6 appendixes, 42 figures, 19 plates, 11 tables. \$5.00
18	Lithology of the Athabasca oil sands. 1966. Carrigy, M.A.; 48 pages, 5 figures, 13 plates, 6 tables. \$3.00	34	Physical environment of an abandoned strip mine near Cadomin, Alberta. 1976. Root, J.D.; 33 pages, 14 plates, 16 figures, 7 tables. \$5.00
19	Geometric coefficients for use in numerical resistivity analysis. 1966. Lennox, D.H.; 234 pages, 5 appendixes, 10 figures, 6 tables. \$3.00	35	Contributions to the hydrogeology of Alberta. 1977. Toth, J., Ozoray, G.F., Wallick, E.I., Bibby, R., Gabert, G.M., Stein, R., Lytviak, A.T.; 104 pages, 1 appendix, 55 figures, 4 plates, 6 tables. \$5.00
20	Cretaceous Foraminifera of the Rocky Mountain Foothills, Alberta. 1967. Wall, J.H.; 185 pages, 1 appendix, 4 figures, 19 plates. \$3.00	36	Multiple glaciations in the foothills, Rocky Mountain House area, Alberta. 1978. Boydell, A.N.; 35 pages, 17 figures, 5 plates, 3 tables (MML 79-5307). \$5.00
21	Stratigraphy and petrology of the Lower Cretaceous Blairmore and Mannville Groups, Alberta Foothills and Plains. 1967. Mellon, G.B.; 270 pages, 2 appendixes, 56 figures, 30 plates, 14 tables. \$3.00	37	Estimating sustainable yield to a well in heterogeneous strata. 1979. Bibby, R.; 60 pages, 5 appendixes, 31 figures, 8 tables. \$5.00
22	Surficial geology of the Foremost-Cypress Hills area, Alberta. 1968. Westgate, J.A.; 122 pages, 1 appendix, 36 figures, 14 plates, 4 tables, 8 maps (NTS 72E scale 1:250 000). \$20.00	38	The hydrogeology of the Athabasca oil sands area, Alberta. 1979. Hackbarth, D.A., Nastasa, N.; 39 pages, 2 appendixes, 36 figures, 3 tables. \$5.00
23	Precambrian geology of the Jasper region, Alberta. 1967. Charlesworth, H.A.; 74 pages, 15 figures, 14 plates, 2 tables, 2 maps (NTS 83D scale 1:250 000). \$3.00	39	Soil survey and interpretations of the Wapiti map area, Alberta. 1980. Twardy, A.G., Corns, I.G.W.; 134 pages, 4 appendixes, 7 figures, 37 plates, 18 tables, 4 maps (NTS 83L scale 1:126 720). \$7.00
24	A hydrogeological study of the Three Hills area, Alberta. 1968. Toth, J.; 117 pages, 4 appendixes, 33 figures, 4 tables. \$3.00	40	The effects of surface mining of coal on water chemistry near Grande Cache, Alberta. 1981. Hackbarth, D.A., 64 pages, 3 appendixes, 31 figures, 8 tables, 2 plates. \$5.00
25	Microfloral diagnosis of Cretaceous-Tertiary boundary, central Alberta. 1969. Snead, R.G.; 148 pages, 1 appendix, 10 figures, 29 plates, 8 tables. \$3.00	41	The composition of Recent alluvial gravels in Alberta river beds. 1982. Shaw, J., Kellerhals, R.; 151 pages, 13 tables, 17 figures. \$7.00
26	Some characteristics and physical properties of Alberta tills. Bayrock, L.A., Pawluk, S.; 72 pages, 4 appendixes, 26 figures, 5 tables. \$3.00	42	Polyphase metamorphism in the Canadian Shield of northeastern Alberta. 1982. Langenberg, C.W., Nielsen, P.A.; 80 pages, 3 tables, 30 figures. \$5.00
27	Lithostratigraphy of the Uppermost Cretaceous (Lance) and Paleocene strata of the Alberta Plains. 1971. Carrigy, M.A.; 161 pages, 6 appendixes, 36 figures, 10 plates, 14 tables, 1 map (scale 1 in to 16 mi). \$4.00	43	Reconnaissance soil survey of the Iosegun Lake area, Alberta. 1983. Knapik, L.J., Lindsay, J.D.; 93 pages, 2 appendixes, 17 plates, 11 tables, 30 figures, 4 maps (NTS 83K). \$7.00
28	Lower Cretaceous microfloras of the Peace River area, northwestern Alberta. 1971. Singh, C.; 3 volumes, 562 pages, 1 appendix, 75 figures, 80 plates, 7 tables. \$12.00	44	Cenomanian Microfloras of the Peace River area, northwestern Alberta. 1983. Singh, C.; 322 pages, 62 plates, 19 figures, 15 tables, 2 appendixes. \$30.00
29	Salt in east-central Alberta. 1971. Hamilton, W.N.; 53 pages, 2 appendixes, 19 figures. \$4.00	45	Polyphase deformation in the Canadian Shield of northeastern Alberta. 1983. Langenberg, C.W.; 34 pages, 34 figures, 4 tables. \$5.00
30	Petrographic and engineering properties of fine-grained rocks of central Alberta. 1973. Locker, J.G.; 144 pages, 27 figures, 14 plates, 17 tables. \$4.00	46	Oil sands geology - Athabasca deposit north. 1985. Flach, P.D.; 31 pages, 27 figures, 1 table, 9 maps. \$16.00

47	Aggregate resources of the Edmonton/Lloydminster region. 1985. Edwards, W.A.D., Hudson, R.B., and Scafe, D.W.; 64 pages, 9 appendixes, 22 figures, 24 tables, 14 plates. \$11.00	50	Petrographic studies of coals from Alberta plains. 1985. Parkash, S.; 47 pages, 35 figures, 41 tables, 9 plates. \$12.00
49	Geology of the Athabasca group in Alberta. 1985. Wilson, J.A.; 78 pages, 8 appendixes, 49 figures, 2 tables. \$11.00		

Annual Reports

1965	Annual Report for 1965; 66 pages	1976	Annual Report for 1976; 68 pages
1966	Annual Report for 1966; 70 pages	1977	Annual Report for 1977; 70 pages
1967	Annual Report for 1967; 73 pages	1978	Annual Report for 1978; 68 pages
1968	Annual Report for 1968; 70 pages	1979	Annual Report for 1979; 51 pages
1969	Annual Report for 1969; 72 pages	1980	Annual Report for 1980; 45 pages
1970	Annual Report for 1970; 75 pages	1981	Annual Report for 1981; 42 pages
1971	Annual Report for 1971; 80 pages	1982	Annual Report for 1982; 44 pages
1972	Annual Report for 1972; 71 pages	1983	Annual Report for 1983; 39 pages
1973	Annual Report for 1973; 65 pages	1984	Annual Report for 1984; 42 pages
1974	Annual Report for 1974; 67 pages	1985	Annual Report for 1985; 47 pages
1975	Annual Report for 1975; 77 pages		

Atmospheric Sciences Reports

69-1	Alberta hail studies field program, 1969. Renick, J.H.; 52 pages, 7 figures, 12 tables. mf \$6.00	72-3	Alberta hail studies field program, 1982. Renick, J.H.; 28 pages, 6 figures, 12 tables. mf \$3.00
70-1	Alberta hail studies field program, 1970. Renick, J.H.; 49 pages, 7 figures, 16 tables. \$5.00	73-1	Alberta hail studies, 1973. Barge, B.L., Wojtiw, L., Renick, J.H.; 10 pages, 10 figures, 7 tables. mf \$2.00
71-1	Project hailstop, 1970. Part I. The development and testing of an airborne droppable pyrotechnic flare system for seeding Alberta hailstorms. 1971. Summers, P.W., Mather, G.K., Treddenick, D.S.; 36 pages, 10 figures, 10 tables. mf \$4.00	74-1	Alberta hail studies field program, 1973. Meheriuk, W.; 27 pages, 7 figures, 14 tables. mf \$3.00
71-2	Alberta hail studies field program, 1971. Renick, J.H.; 8 figures, 11 tables. mf \$3.00	75-1	Climatic summaries of hailfall in central Alberta (1957-1973). Wojtiw, L.; 102 pages, 1 appendix, 46 figures, 54 tables. mf \$10.00
72-1	Project hailstop, 1971. Contributions to the 3rd National Conference on Weather Modification, American Meteorological Society, Rapid City, South Dakota, June 1972. Summers, P.W., Renick, J.H., Chisholm, A.J.; 15 pages. mf \$2.00	76-1	Current research on hailstorms and their modification. Goyer, G.G.; 145 pages, 74 figures, 10 tables. \$15.00
72-2	Alberta hail studies, 1972. Contributions to the 6th Annual Congress of the Canadian Meteorological Society, Edmonton, Alberta, June 1972. Barge, B.L., Cherry, N., Chisholm, A.J., English, M., Hitschfield, W., Renick, J.H., Rogers, R.R., Summers, P.W., Wojtiw, L.; 53 pages. mf \$6.00	76-2	Fine scale structure of convective storms associated with hail production. Barge, B.L., Bergwall, F.; 2 volumes, 95 pages, 62 figures, 1 table. \$10.00
		76-3	Fine scale structure of convective storms - implications for cloud seeding in Alberta. Barge, B.L., Bergwall, F., Goyer, G.G., Renick, J.H.; 18 pages, 7 figures, 2 tables. \$3.00
		77-1	Development and use of a MOBILE RAwinSonde System. Robitaille, F.E.; 25 pages, 51 appendixes, 19 figures, 2 tables. \$3.00

77-2	MOBILE RAWINSONDE TRAINING AND REFERENCE MANUAL. Sackiw, C., Bergwall, F.; 37 pages, 15 plates, 6 figures. \$3.00	79-1 IIB	RESEARCH, OPERATIONS AND EVALUATION IN THE ALBERTA HAIL PROJECT. VOLUME II. THE RESEARCH. VOLUME IIB. RADAR METEOROLOGY. \$15.00 FOR SET OF FOUR VOLUMES, \$3.00 EA.
77-3	CURRENT RESEARCH ON HAILSTORMS AND THEIR MODIFICATION; 103 PAGES, 1 APPENDIX, 66 FIGURES, 4 TABLES. \$3.00	79-1 IIC	RESEARCH, OPERATIONS AND EVALUATION IN THE ALBERTA HAIL PROJECT. VOLUME II. THE RESEARCH. VOLUME IIC. PRECIPITATION STUDIES. \$15.00 FOR SET OF FOUR VOLUMES, \$3.00 EA.
77-4	THE ALBERTA HAIL PROJECT RADAR SYSTEMS. Leung, S.K.; 155 pages, 5 appendixes, 75 figures, 5 tables. \$3.00	79-1 III	RESEARCH, OPERATIONS AND EVALUATION IN THE ALBERTA HAIL PROJECT. VOLUME III. THE OPERATIONS. \$15.00 FOR SET OF FOUR VOLUMES, \$3.00 EA.
78-1	PRECIPITATION MEASUREMENT BY WEATHER RADAR - A REVIEW. Barge, B.L., Humphries, R.G.; 24 pages, 1 APPENDIX, 5 FIGURES, 2 TABLES. \$3.00	79-1 IV	RESEARCH, OPERATIONS AND EVALUATION IN THE ALBERTA HAIL PROJECT. VOLUME IV. EVALUATION; 30 PAGES, 1 APPENDIX, 13 FIGURES, 30 TABLES. \$15.00 FOR SET OF FOUR VOLUMES, \$3.00 EA.
78-2	WEATHER RADAR RAINFALL MEASUREMENTS - APPLICATIONS TO OPERATIONAL HYDROLOGY IN ALBERTA. Barge, B.L., Humphries, R.G., Mah, S.J., Kuhnke, W.K.; 17 pages, 10 figures. \$3.00	81-1	CLOUD PHYSICS RESEARCH AIRCRAFT PROGRAM. SUMMARY OF OPERATIONS IN 1978 AND PRELIMINARY AIRCRAFT AND RADAR OBSERVATIONS. English, M., Barge, B.L., Humphries, R.G.; 51 pages, 13 tables, 17 figures. \$3.00
79-1 IA	RESEARCH, OPERATIONS AND EVALUATION IN THE ALBERTA HAIL PROJECT. VOLUME I. THE SUMMARY; 22 PAGES. \$15.00 FOR SET OF FOUR VOLUMES, \$3.00 EA.	84-1	CROP DAMAGE AND SULFUR EMISSION TRENDS IN CENTRAL ALBERTA. Wong, R.K.W., English, M.; 8 PAGES, 9 FIGURES. \$4.00
79-1 IIA	RESEARCH, OPERATIONS AND EVALUATION IN THE ALBERTA HAIL PROJECT. VOLUME II. THE RESEARCH. VOLUME IIA. METEOROLOGY AND MODELLING. \$15.00 FOR SET OF FOUR VOLUMES, \$3.00 EA.		

Field Program Reports

1980	ALBERTA HAIL PROJECT FIELD PROGRAM, 1980. Deibert, R.J.; ISSN 0706-3938, 113 pages, 11 figures, 11 tables, 8 appendixes.
1981	ALBERTA HAIL PROJECT FIELD PROGRAM, 1981. ISSN 0706-3938, 55 pages, 13 figures, 10 tables, 7 appendixes.
1982	ALBERTA HAIL PROJECT FIELD PROGRAM, 1982. ISSN 0706-3938, 58 pages, 9 figures, 10 tables, 11 appendixes.

1983	ALBERTA HAIL PROJECT FIELD PROGRAM, 1983. ISSN 0706-3938, 64 pages, 8 figures, 14 tables, 7 appendixes.
1984	ALBERTA HAIL PROJECT FIELD PROGRAM, 1984. ISSN 0706-3938, 60 pages, 6 figures, 12 tables, 7 appendixes.

Coal Reports

84-2	NATURE OF POROSITY IN ALBERTA SUBBITUMINOUS COALS. Parkash, S., Chakrabarty, S.K., du Plessis, M.P.; 14 pages, 13 figures, 13 tables. \$4.00
------	--

85-1	EVALUATION OF ALBERTA PLAINS COALS FOR PYROLYSIS AND LIQUEFACTION PROCESSES. Chakrabarty, S.K., du Plessis, M.P.; 24 pages, 3 appendixes, 10 figures, 24 tables. \$5.00
------	---

Earth Sciences Reports

55-1	GLACIAL GEOLOGY OF CORONATION DISTRICT. Bayrock, L.A., Gravenor, C.P.; 38 pages, 2 appendixes, 3 figures, 2 tables, 1 map (NTS 73D scale 1 in to 1 mi). mf \$5.00
55-2	GLACIAL GEOLOGY OF AN AREA IN EAST-CENTRAL ALBERTA. Bayrock, L.A.; 46 pages, 3 appendixes, 3 figures. mf \$5.00
56-1	ROUND-TABLE CONFERENCE ON GROUNDWATER IN ALBERTA. 84 pages. mf \$8.50

56-2	GLACIAL GEOLOGY OF CASTOR DISTRICT, ALBERTA. Gravenor, C.P.; 23 pages, 1 figure, 1 preliminary map (NTS 83D scale 1 in to 1 mi). mf \$3.50
56-3	A RADIOCARBON DATE FROM SMOKY LAKE, ALBERTA. Gravenor, C.P., Ellwood, R.B.; 17 pages, 1 figure. mf \$2.00
56-4	STREAM-TRENCH SYSTEMS IN EAST-CENTRAL ALBERTA. Gravenor, C.P., Bayrock, L.A.; 11 pages, 1 figure, 2 plates. mf \$3.00

56-5	Air photographs of the plains region of Alberta. Gravenor, C.P.; 35 pages, 16 photographs, 8 overlays. mf \$6.00	62-1	Geology of the St. Agnes Lake district, Alberta. Godfrey, J.D., Peikert, E.W.; 31 pages, 1 figure, 3 tables, 1 map (NTS 74M scale 2 in to 1 mi). \$4.50
57-1	Glacial geology of Sedgewick district. Gravenor, C.P., Ellwood, R.B.; 43 pages, 2 figures, 2 maps (NTS 73D scale 1 in to 1 mi). mf \$3.00	62-2	Geology of the Colin Lake district, Alberta. Godfrey, J.D., Peikert, E.W.; 28 pages, 2 figures, 3 tables, 1 map (NTS 74M scale 2 in to 1 mi). \$4.50
57-2	Glacial geology, Alliance-Brownfield district, Alberta. Bayrock, L.A.; 43 pages, 2 figures, 2 maps (NTS 73D scale 1 in to 1 mi). mf \$7.50	62-3	Reconnaissance groundwater survey of the Oyen map-area, Alberta. Kunkle, G.R.; 23 pages, 6 figures, 3 maps (NTS 72M scale 1 in to 4 mi). \$6.50
57-3	Glacial geology, Galahad-Hardisty district, Alberta. Bayrock, L.A.; 35 pages, 2 appendixes, 2 figures, 2 maps (NTS 73D scale 1 in to 1 mi). mf \$6.00	62-4	Water well records, Peace River district, northwestern Alberta. Jones, J.F.; 34 pages, 1 figure, 1 map (NTS 83M, 83N, 84C, 84D scale 1 in to 8 mi). mf \$3.00
58-1	A general outline of groundwater conditions in the Alberta Plains region. Farvolden, R.N., Foster, J.W.; 35 pages, 4 figures. mf \$4.50	62-5	Reconnaissance groundwater study, Swan Hills and adjacent area, Alberta. Jones, J.F.; 43 pages, 4 appendixes, 5 figures, 5 tables, 1 map (NTS 83J, 83K, 83N and 83O scale 1 in to 4 mi). mf \$5.50
58-2	Industrial minerals of Alberta. Govett, G.J.S., Byrne, P.J.S.; 112 pages, 18 figures, 14 tables. mf \$11.50	62-6	Surficial geology of the Edmonton district, Alberta. Bayrock, L.A., Hughes, G.M.; 40 pages, 5 figures, 1 table, 4 maps (NTS 83H scale 1 in to 1 mi). mf \$8.00
58-3	Geology of the Andrew Lake north district, Alberta. Godfrey, J.D.; 32 pages, 1 figure, 1 plate, 3 tables, 1 map (NTS 74M scale 2 in to 1 mi). mf \$4.50	62-7	Bibliography of the Athabasca Oil Sands, Alberta. Carrigy, M.A.; 66 pages, superceded by Earth Sciences Report 65-3. \$7.50
58-4	Mineralization in the Andrew, Waugh, and Johnson Lakes area, northeastern Alberta. Godfrey, J.D.; 17 pages, 4 figures, 1 map (scale 1 in to 1 mi). \$3.00	62-8	Geology of the Chinchaga River and Clear Hills (north half) map areas, Alberta. Green, R., Mellon, G.B.; 18 pages, 5 figures, 2 tables, 1 map (NTS 84D, 84E scale 1 in to 8 mi). mf \$5.00
58-5	Sodium sulphate deposits in Alberta. Govett, G.J.S.; 34 pages. \$3.00	63-1	Aquifer testing procedures and other information used in evaluating groundwater supplies in Alberta. Jones, J.F.; 35 pages, 7 appendixes, 11 figures, 3 tables. mf \$4.00
59-1	Coal reserves for strip-mining, Wabamun Lake district, Alberta. Pearson, G.R.; 55 pages, 3 appendixes, 5 figures, 7 tables. mf \$18.00	63-2	Surficial geology of the Vauxhall district, Alberta. Bayrock, L.A., Jones, J.F.; 4 pages, 1 map (NTS 82I scale 1 in to 1 mi). \$3.00
59-2	Groundwater geology of the Beaverlodge district, Alberta. Jones, J.F.; 52 pages, 2 appendixes, 4 figures, 3 tables, 3 maps (NTS 83M scale 1 in to 2 mi). mf \$3.00	64-1	Analysis of silicate rocks. Part 1. Routine determination of major constituents. Rigg, T., Wagenbauer, H.A.; 29 pages, 4 figures, 3 tables. \$3.00
59-3	Iron occurrences in the Peace River region, Alberta. Kidd, D.J.; 38 pages, 2 appendixes, 6 figures, 6 tables. mf \$5.00	64-2	Coal occurrences of the Vulcan-Gleichen area, Alberta. Campbell, J.D., Almadi, I.S.; 58 pages, 5 appendixes, 9 figures, 3 tables, 1 map (NTS 82I scale 1 in to 4 mi). \$3.00
60-1	Evaluations of some Alberta coal deposits. Part I. The Wizard Lake district. Part II. The Westlock-Barrhead district. Part III. The Sheep Creek-Wildhay River district. Pearson, G.R.; 61 pages, 6 figures, 8 tables. \$3.00	64-3	Catalogue of coal mines of the Alberta Plains. Campbell, J.D.; 140 pages, 2 maps (scale 1 in to 14 mi). \$3.00
61-1	The Clover Bar coal zone, Edmonton-Morinville district, Alberta. Pearson, G.R.; 26 pages, 2 appendixes, 41 figures, 2 tables, 1 map (NTS 83H scale 1 in to 2 mi). mf \$5.00	65-1	Bedrock topography of southwestern Alberta. Geiger, K.W.; 14 pages, 1 appendix, 4 figures, reprinted in 1969. \$3.00
61-2	Geology of the Andrew Lake, south district, Alberta. Godfrey, J.D.; 30 pages, 2 figures, 3 tables, 1 map (scale 2 in to 1 mi). mf \$5.00	65-2	Surficial geology of the Cypress Hills area, Alberta. Westgate, J.A.; 6 pages, 6 maps (NTS 72E scale 1 in to 1 mi). \$7.00
61-3	A farm water supply from quicksand. Farvolden, R.N.; 12 pages, 3 figures. \$3.00	65-3	Athabasca oil sands bibliography (1789-1964). Carrigy, M.A.; 91 pages. \$10.00
61-4	Groundwater resources, Pembina area, Alberta. Farvolden, R.N.; 26 pages, 7 figures, 1 table. mf \$6.00		

65-4	Water well records, southern Alberta, townships 1-10. Geiger, K.W., Brown, R.E., Withers, D.W., deVries, P.H.; 131 pages, 1 figure, reprinted in 1968. \$3.00	69-3	Composition and ceramic properties of some clays from northeastern Alberta. Halferdahl, L.B.; 24 pages, 1 appendix, 6 figures, 3 tables. \$3.00
65-5	Chemical analyses of groundwaters of east-central Alberta. LeBreton, E.G., VandenBerg, A.; 24 pages, 1 figure, 3 tables. mf \$3.00	69-4	A gravel and sand aquifer in the Bassano-Gem region, Alberta. Carlson, V.A., Turner, W.R., Geiger, K.W.; 25 pages, 2 appendixes, 10 figures, 2 tables. mf \$3.00
65-6	Geology of the Bayonet, Ashton, Potts and Charles Lake districts, Alberta. Godfrey, J.D.; 45 pages, 1 figure, 12 tables, 3 maps (NTS 74M scale 2 in to 1 mi). mf \$6.00	70-1	Silica sand in the vicinity of Edmonton, Alberta. Carrigy, M.A.; 30 pages, 3 figures, 17 tables. mf \$3.00
66-1	Geology of the City of Edmonton. Part I. Central Edmonton. Bayrock, L.A., Berg, T.; 30 pages, 9 figures, 2 tables. mf \$3.50	70-2	Index to current geologic maps of Alberta. Root, J.D.; 20 pages, superceded by Earth Sciences Report 73-4.
66-2	Some characteristics of bentonite in Alberta. Babet, P.H.; 25 pages, 5 tables, 1 map (scale 1 in to 115 mi). \$3.00	71-1	Hydrogeology of the Red Deer area, Alberta. LeBreton, E.G.; 14 pages, 1 appendix, 1 map (NTS 83A scale 1:250 000) reprinted. \$3.00
66-3	Bedrock topography and surficial aquifers of the Edmonton district, Alberta. Carlson, V.A.; 21 pages, 1 appendix, 5 figures, 1 map (NTS 83H scale 1:50 000). \$4.00	71-2	Hydrogeology of the Grimshaw-Chinook Valley area, Alberta. Tokarsky, O.; 19 pages, 1 appendix, 2 tables, 1 map (NTS 82I scale 1:250 000). \$3.00
66-4	Water well records, Alberta, townships 11-25. Geiger, K.W., Withers, D.W., Treleaven, A.L., deVries, P.H.; 136 pages, 1 figure. \$3.00	71-3	Hydrogeology of the Rocky Mountain House area, Alberta. Tokarsky, O.; 15 pages, 1 map (NTS 83B scale 1:250 000). \$3.00
66-5	Coal mines and coal leases, Alberta Rocky Mountains and Foothills. Campbell, J.D.; 55 pages, 2 figures, 1 table. \$3.00	71-4	Uses and specifications of silica sand. McLaws, I.J.; 64 pages, 3 appendixes, 4 figures, 21 tables. \$3.00
66-6	Guide to coal deposits, Yukon and Mackenzie Territories: A compilation. Campbell, J.D.; 33 pages, 1 figure, 1 table. \$3.00	71-5	Silica (dune) sand from the Medicine Hat area, Alberta. Holter, M.E.; 19 pages, 3 figures, 14 tables. \$3.00
67-1	Ardley coal zone in the Alberta Plains: central Red Deer River area. Campbell, J.D.; 28 pages, 2 appendixes, 8 figures, 1 map (NTS 83D scale 1 in to 4 mi). \$3.00	72-1	Hydrogeology of the Drumheller area, Alberta. Borneuf, D.M.; 15 pages, 1 appendix, 1 map (NTS 82P scale 1:250 000). \$3.00
67-2	Bedrock topography of the Gleichen map-area, Alberta. Geiger, K.W.; 14 pages, 1 appendix, 2 figures, 1 map (NTS 82I scale 1:250 000). \$3.00	72-2	Hydrogeology of the Bison Lake area, Alberta. Tokarsky, O.; 11 pages, 1 appendix, 1 table, 1 map (NTS 84F scale 1:250 000). \$3.50
67-3	Coal survey boreholes, Vulcan-Gleichen area, Alberta. Campbell, J.D.; 40 pages, 1 figure. \$3.00	72-3	Hydrogeology of the Mount Watt area, Alberta. Tokarsky, O.; 10 pages, 1 appendix, 1 map (NTS 84K scale 1:250 000). \$3.00
67-4	Surficial geology of the Wainwright area (east half), Alberta. Bayrock, L.A.; 10 pages, 1 figure, 8 maps (NTS 73D scale 1 in to 1 mi). \$3.00	72-4	Silica (dune) sand from the Red Deer area, Alberta. Holter, M.E.; 19 pages, 2 appendixes, 3 figures, 14 tables. \$3.00
68-1	Bedrock topography and surficial aquifers, Edson area, Alberta. Gabert, G.M., Roed, M.A.; 9 pages, 6 figures, 2 maps (scale 1:50 000). mf \$3.50	72-5	Trail conditions along a portion of the Great Divide Trail route, Alberta and British Columbia Rocky Mountains. Root, J.D., Knapik, L.J.; 38 pages, 2 appendixes, 14 figures, 9 plates, 4 tables, 1 map (scale 1:50 000). mf \$6.00
69-1	Groundwater chemistry and hydrology of the Handhills Lake area, Alberta. VandenBerg, A., Lennox, D.H.; 49 pages, 2 appendixes, 17 figures, 3 tables. \$3.00	72-6	Stratigraphic sections and drill hole logs, Edmonton area, Alberta. McPherson, R.A., Kathol, C.P.; 78 pages, 1 figure. \$3.00
69-2	Alluvial quartzite pebbles as a source of industrial silica. Halferdahl, L.B.; 22 pages, 2 appendixes, 4 figures, 3 tables. \$3.00	72-7	Soil survey for urban development, Edmonton, Alberta. Lindsay, J.D., Scheelar, M.D.; 23 pages, 1 appendix, 4 figures, 4 tables. mf \$2.50
		72-8	Hydrogeology of the Wabamun Lake area, Alberta. Ozoray, G.F.; 19 pages, 2 appendixes, 1 map (NTS 83G scale 1:250 000). mf \$3.00

72-9	Coal occurrences and related geology, Fox Creek area, Alberta. Campbell, J.D.; 106 pages, 2 appendixes, 8 figures, 3 tables, 1 map (scale 1:250 000). \$3.00	74-9	Hydrogeology of the Gleichen area, Alberta. Ozoray, G.F., Lytviak, A.T.; 16 pages, 1 appendix, 1 map (NTS 82I scale 1:250 000). \$3.00
72-10	Coal occurrences, Athabasca-Smith area, Alberta. Campbell, J.D.; 34 pages, 1 appendix, 4 figures, 1 map (scale 1:250 000). \$3.00	74-10	Hydrogeology of the Edmonton area (northwest segment), Alberta. Bibby, R.; 10 pages, 1 map (NTS 83H scale 1:125 000). \$3.00
72-11	Hydrogeology of the Tawatinaw area, Alberta. Borneuf, D.M.; 12 pages, 1 appendix, 2 tables, 1 map (NTS 83I scale 1:250 000). \$3.00	75-1	Hydrogeology of the Wainwright area, Alberta. Hackbarth, D.A.; 16 pages, 2 figures, 1 table, 1 map (NTS 73D scale 1:250 000). \$3.00
72-12	A legend and guide for the preparation and use of the Alberta hydrogeological information and reconnaissance map series. Badry, A.; 96 pages, 6 figures, 5 tables. \$5.00	75-2	Hydrogeology of the Medicine Hat area, Alberta. Holter, M.E.; 11 pages, 2 tables, 1 map (NTS 72L scale 1:250 000). \$3.00
73-1	Forest/soil relationships and management considerations in a portion of the Chip Lake map area, Alberta. Lesko, G.L., Lindsay, J.D.; 66 pages, 4 appendixes, 5 figures, 10 tables. \$3.00	75-3	Gravel resources of the Red Deer area, Alberta. Holter, M.E.; 54 pages, 4 appendixes, 6 figures, 2 plates, 2 tables. \$3.00
73-2	Sand and gravel resources of the Edmonton area, Alberta. McPherson, R.A., Kathol, C.P.; 11 pages, 2 figures, 1 map (NTS 83H scale 1:250 000), superceded by Bulletin 32. mf	75-4	Deep cretaceous coal resources of the Alberta plains. Yurko, J.R.; 47 pages, 22 figures, 12 tables. \$18.00
73-3	Chemistry and hydrology of groundwater in the vicinity of Waterton Reservoir, Alberta. VandenBerg, A., Geiger, K.W.; 55 pages, 28 figures, 13 tables. \$3.00	75-5	Hydrogeology of the Vermilion area, Alberta. Currie, D.V., Zacharko, N.; 15 pages, 3 figures, 1 table, 2 maps (NTS 73E scale 1:250 000). \$4.00
73-4	Index to current geological, soils and groundwater maps of Alberta. Root, J.D.; 32 pages, 9 index maps, superceded by Earth Sciences Report 77-3.	75-6	Regional chemistry of groundwater in the Wainwright area, Alberta. Hackbarth, D.A.; 49 pages, 1 appendix, 26 figures, 2 tables. \$3.00
74-1	Hydrogeology of the Lethbridge-Fernie area, Alberta. Tokarsky, O.; 18 pages, 1 map (NTS 82H, 82G scale 1:250 000). \$3.00	75-7	Geology and coal reserves of the Ardley coal zone of central Alberta. Holter, M.E., Yurko, J.R., Chu, M.; 41 pages, 23 figures, 4 plates, reprinted 1976. \$3.00
74-2	Hydrogeology of the Waterways-Winefred Lake area, Alberta. Ozoray, G.F.; 18 pages, 1 map (NTS 73M, 74D scale 1:500 000). \$3.00	75-8	Coal resources, Tofield-Donaldda area, Alberta. Campbell, J.D.; 64 pages, 1 appendix, 4 figures, 3 tables. \$3.00
74-3	Coal resources, Taber-Manyberries area, Alberta. Campbell, J.D.; 140 pages, 2 appendixes, 5 figures, 1 table. \$3.00	76-1	Hydrogeology of the Edmonton area (northeast segment), Alberta. Stein, R.; 21 pages, 1 map (NTS 83H scale 1:125 000). \$3.00
74-4	Hydrogeology of the Foremost area, Alberta. Borneuf, D.M.; 26 pages, 2 appendixes, 1 figure, 4 tables, 1 map (NTS 72E scale 1:250 000). \$3.00	76-2	Hydrogeology of the Iosegun Lake area, Alberta. Tokarsky, O.; 10 pages, 1 map (NTS 83J scale 1:250 000). \$3.00
74-5	Susceptibility of geologic deposits to erosion in the House Mountain area, Alberta. Kathol, C.P., McPherson, R.A.; 33 pages, 21 figures, 2 tables. \$3.00	76-3	Hydrogeology of the Whitecourt area, Alberta. Tokarsky, O.; 10 pages, 1 map (NTS 83K scale 1:250 000). \$3.00
74-6	Regional chemistry and water level distribution of the near-surface groundwaters of the Edmonton area (northwest segment), Alberta. Bibby, R.; 76 pages, 51 figures. \$3.00	76-4	Hydrogeology of the Grande Prairie area, Alberta. Hackbarth, D.A.; 17 pages, 4 figures, 1 table, 1 map (NTS 83M scale 1:250 000). \$3.00
74-7	Groundwater basic data of the Edmonton area (northwest segment), Alberta. Bibby, R.; 42 pages, 3 files, 3 figures. \$3.00	76-5	Hydrogeology of the Mount Robson-Wapiti area, Alberta. Barnes, R.G.; 33 pages, 1 appendix, 1 map (NTS 83E, 83L scale 1:500 000). \$3.00
74-8	Coal resources, Hussar-Hanna area, Alberta. Campbell, J.D.; 54 pages, 1 appendix, 8 figures, 1 table. \$3.00	76-6	Index to uranium assessment reports for quartz mineral exploration permits, northeastern Alberta. Poruks, M., Hamilton, W.M.; 81 pages, 3 maps (NTS 74E, 74L, 74M scale 1:250 000), update available free of charge. \$3.00
		77-1	Hydrogeology of the Lesser Slave Lake area, Alberta. Vogwill, R.I.J.; 30 pages, 2 appendixes, 6 figures, 1 table, 1 map (NTS 83O scale 1:250 000), MML 79-5425. \$3.00

77-2	Hydrogeology of the Calgary-Golden area, Alberta. Ozoray, G.F., Barnes, R.G.; 38 pages, 1 appendix, 7 figures, 2 tables, 1 map (NTS 82N, 82O scale 1:250 000). \$3.00	79-7	Hydrogeology of the Edson area, Alberta. Vogwill, R.I.J.; 22 pages, 10 figures, 1 map (NTS 83F scale 1:250 000). \$3.00
77-3	Index to geological, bedrock topography, soils and groundwater maps of Alberta. Root, J.D.; 66 pages, 12 index maps. \$3.00	80-1	Hydrogeology of the Pelican-Algar Lake area, Alberta. Ozoray, G.F., Lytviak, A.T.; 8 pages, 1 figure, 1 table, 1 map in 2 sheets (NTS 83P, 84A scale 1:500 000). \$3.00
77-4	Groundwater conditions in the Grande Prairie-Beaverlodge area, Alberta. Hackbarth, D.A.; 58 pages, 66 figures, 1 table. \$3.00	80-2	Hydrogeology of the Steen River-Whitesand River area, Alberta. Ozoray, G.F.; 13 pages, 2 figures, 1 table, 1 map (NTS 84N, 84O scale 1:500 000). \$3.00
77-5	Hydrogeology of the Brazeau-Canoe River area, Alberta. Barnes, R.G.; 32 pages, 2 tables, 1 map (NTS 83C, 83D scale 1:250 000). MML 79-5426. \$3.00	80-3	Hydrogeology of Zama-Bistcho Lakes area, Alberta. Borneuf, D.M.; 7 pages, 1 table, 1 map (NTS 84L, 84M scale 1:500 000). \$3.00
78-1	Geology of the Alexander-Wylie Lakes district, Alberta. Godfrey, J.D.; 26 pages, 4 figures, 10 tables, 2 maps (NTS 74M). \$3.00	80-4	Soil survey of Cypress Hills and interpretation for recreational use. Greenlee, G.M.; 68 pages, 13 tables, 2 maps, 4 figures; Alberta Institute of Pedology Number M-78-1. \$4.00
78-2	Hydrogeology of the Oyen area, Alberta. Borneuf, D.M.; 35 pages, 1 appendix, 1 map (NTS 72M scale 1:250 000). MML 79-5427. \$3.00	80-5	Soil survey of designated areas within Kananaskis Provincial Park and interpretation for recreational use. Greenlee, G.M.; 58 pages, 19 tables, 2 maps, 3 figures; Alberta Institute of Pedology Number M-78-3. \$4.00
78-3	Geology of the Fort Chipewyan district, Alberta. Godfrey, J.D.; 20 pages, 2 figures, 9 tables, 4 maps (NTS 74L scale 1:31 680). \$3.00	81-1	Guidebook for use with soil survey reports of Alberta provincial parks and recreation areas. Greenlee, G.M.; 66 pages, 57 tables, 19 plates, 10 figures. \$4.00
78-4	Soil survey and interpretation for recreational use of an area at the junction of the Notikewin and Peace Rivers. Greenlee, G.M.; 45 pages, 1 appendix, 4 figures, 13 tables, 2 maps (NTS 84F). \$3.00	81-2	Hydrogeology of the Peace River area, Alberta. Borneuf, D.M.; 6 pages, 1 map (NTS 84C scale 1:250 000). \$3.00
78-5	Hydrogeology of the southwest segment, Edmonton, Alberta. Ceroici, W.J.; 14 pages, 1 figure, 1 table, 1 map (NTS 83H southwest, scale 1:125 000). MML 80-0693. \$3.00	81-4	Sand and gravel resources of the Lethbridge area, Alberta. Shetsen I.; 41 pages, 19 figures, 6 maps (NTS 82H, 82I). \$5.00
78-6	Hydrogeology of the Bitumount-Namur Lake area, Alberta. Ozoray, G.F., Hackbarth, D.A., Lytviak, A.T.; 11 pages, 2 figures, 2 tables, 1 map (NTS 74E, 84H scale 1:500 000). \$3.00	82-1	Marl resources of Alberta. MacDonald, D.E.; 94 pages, 38 figures, 11 tables, 12 plates, 1 map. \$6.00
79-1	Hydrogeology of the Sand River area, Alberta. Ozoray, G.F., Wallick, E.I., Lytviak, A.T.; 11 pages, 3 figures, 2 tables, 1 map (NTS 73L scale 1:250 000). \$3.00	82-2	Groundwater hydrology of the Pine Lakes research basin, Alberta. Garven, G.; 153 pages, 56 figures (28 in pocket), 7 tables, 4 appendixes. \$7.00
79-2	Sand and gravel deposits in the Canmore corridor area, Alberta. Edwards, W.A.D.; 30 pages, 3 appendixes, 5 figures, 8 plates. \$3.00	82-3	Springs of Alberta. Borneuf, D.M.; 95 pages, 4 maps, 26 figures, 24 plates, 1 table. \$5.00
79-3	Hydrogeology of the Winagami area, Alberta. Borneuf, D.M.; 11 pages, 1 appendix, 1 map (NTS 83N scale 1:250 000). \$3.00	82-4	Hydrogeology of the Clear Hills-Chinchaga River area, Alberta. Ozoray, G.F.; 13 pages, 2 figures, 1 table, 1 map (NTS 84D, 84E scale 1:250 000). \$3.00
79-4	Hydrogeology of the Kananaskis Lake area, Alberta. Borneuf, D.M.; 13 pages, 1 appendix, 1 table, 1 map (NTS 82J scale 1:250 000). \$3.00	84-1	Soil survey of Wabamun Provincial Park study area and interpretation for recreational use. Greenlee, G.M.; 19 pages, 2 figures, 15 tables, 3 maps. \$4.00
79-5	Hydrogeology of the Peerless Lake area, Alberta. Ceroici, W.J.; 10 pages, 2 figures, 1 table, 1 map (NTS 84B scale 1:250 000). \$3.00	84-2	Geology of the Ryan-Fletcher Lakes district, Alberta. Godfrey, J.D.; 28 pages, 3 figures, 9 tables, 4 maps (NTS 74M scale 1:31 680). \$7.00
79-6	Hydrogeology of the Edmonton area (southeast segment), Alberta. Stein, R.; 12 pages, 1 figure, 1 map (NTS 83H southeast scale 1:125 000). \$3.00	84-8	Spatial and temporal variations in groundwater chemistry of shallow aquifers in the Sand River area, Alberta. Wallick, E.I.; 12 pages, 7 figures, 2 tables. \$5.00.

85-1 Coal quality and rank variation within Upper Cretaceous and Tertiary sediments, Alberta plains region. Nurkowski, J.R.; 39 pages, 4 appendixes, 18 figures, 5 tables. \$5.00

Economic Geology Reports

1	Calcium and magnesium in Alberta brines. 1971. Hitchon, B., Holter, M.E.; 39 pages, 2 appendixes, 29 figures, 3 tables. \$4.50	4	Limestone resources of Alberta. 1976. Holter, M.E.; 91 pages, 3 appendixes, 21 figures, 14 plates, 28 tables. \$3.00
2	Alberta bentonites. 1975. Scafe, D.W.; 19 pages, 9 figures, 3 tables. \$3.00	5	Bromide, iodide and boron in Alberta formation waters. 1977. Hitchon, B., Levinson, A.A., Horn, M.K.; 25 pages, 1 appendix, 8 figures, 5 tables. \$3.00
3	Alberta clays and shales, summary of ceramic properties. 1975. Hamilton, W.N., Babet, P.H.; 73 pages, 3 appendixes, 4 figures, 4 tables. \$10.00	6	Silica sands in the Fort McMurray area, Alberta. 1980. McLaws, I.J.; 48 pages, 3 appendixes, 17 figures, 1 plate, 12 tables. \$3.00

Exploratory Soil Survey Reports

58-1	Exploratory soil survey of Alberta map sheets NTS 84C (east half), 84A, 84B and 74D. 1957. Lindsay, J.D., Heringa, P.K., Pawluk, S., Odynsky, W.; 32 pages, 5 figures, 8 tables, 4 maps (scale 1 in to 11 mi). \$3.00	62-1	Exploratory soil survey of Alberta map sheets NTS 84H, 84I and 84P. 1962. Lindsay, J.D., Pawluk, S., Odynsky, W.; 55 pages, appendix, surface geology by L.A. Bayrock, 7 figures, 3 maps (scale 1 in to 12 mi). \$3.00
59-1	Exploratory soil survey of Alberta map sheets NTS 84D (north half), 84E, 84F and 84G. 1958. Lindsay, J.D., Pawluk, S., Odynsky, W.; 48 pages, 1 appendix, surface geology by L.A. Bayrock, 5 figures, 8 tables, 4 maps (scale 1 in to 11 mi). \$3.00	63-1	Exploratory soil survey of Alberta map sheets NTS 74M, 74L, 74E and 73L (north half). 1963. Lindsay, J.D., Pawluk, S., Odynsky, W.; 66 pages, appendix, surface geology by L.A. Bayrock, 4 figures, 8 tables, 4 maps (scale 1 in to 12 mi). \$3.00
60-1	Exploratory soil survey of Alberta map sheets NTS 84J, 84K and 84L. 1959. Lindsay, J.D., Pawluk, S., Odynsky, W.; 49 pages, 4 figures, 8 tables, 3 maps (scale 1 in to 11 mi). \$3.00	64-1	Exploratory soil survey of Alberta map sheets NTS 83O, 83P and 73M. 1964. Wynnyk, A., Lindsay, J.D., Heringa, P.K., Odynsky, W.; 53 pages, 3 figures, 7 tables. \$3.00
61-1	Exploratory soil survey of Alberta map sheets NTS 84M, 84N and 84O. 1961. Lindsay, J.D., Pawluk, S., Odynsky, W.; 43 pages, appendix, surface geology by L.A. Bayrock, 7 tables, 3 figures, 3 maps (scale 1 in to 11 mi). \$3.00	64-2	Exploratory soil survey of Alberta map sheets NTS 83L, 83K, 83F and 83J. 1964. Lindsay, J.D., Wynnyk, A., Odynsky, W.; 53 pages, 3 figures, 8 tables. \$3.00

Open File Reports

1942-1	Camrose, Alberta water supply. Allan, J.A.; 31 pages, 1 appendix, 3 tables, 3 maps. \$4.00	1958-1	Some observations on the groundwater geology of the Lloydminster area. LeBreton, E.G.; 21 pages, 16 figures, 6 maps. \$6.50
1952-1	Report on quarry operation at Rock Wool Products Quarry, Gap Lake, Alberta. Patching, T.H.; 12 pages; Economic Mineral File MWL-IR-02, Geodial File 700821. \$2.00	1959-1	A large industrial water supply for the city of Medicine Hat, Alberta. Meyboom, P.; 20 pages, 1 appendix, 5 figures. \$2.00
1956-1	Carbon dioxide has injurious effect on fresh concrete. 1 page. \$1.00	1959-2	Groundwater prospects of the Andrew area, Alberta. LeBreton, E.G.; 38 pages, 1 figure, 3 maps. \$7.00
1957-1	Groundwater conditions, Hines Creek, Alberta. Jones, J.F.; 4 pages, 3 figures. \$2.00	1959-3	Edson report. Farvolden, R.N.; 9 pages, 2 figures, 2 maps. \$2.00

1959-4	Stettler report-groundwater geology and hydrology. Meneley, W.A.; 48 pages, 3 appendixes, 1 table. \$5.00	1962-6	An evaluation of some Alberta highways in muskeg areas. Anderson, K.O.; 32 pages, 2 appendixes, 5 figures, 2 tables. \$5.00
1959-5	Water supply-Village of Halkirk. Meneley, W.A.; 7 pages, 1 figure, 1 table. \$1.00	1962-7	Model tests on hydraulics of concrete arch culverts. Neill, C.R., Tso, H.Y.; 14 pages, 8 figures, 2 plates, 1 table. \$1.50
1959-6	Dunvegan landslide. Brooker, E.W.; 109 pages, 3 appendixes, 50 figures, 2 tables. \$12.00	1962-8	Stabilization of fine grained soils with lime and lime-pozzolan admixtures. Anderson, K.O.; 25 pages, 5 figures, 3 tables. \$2.50
1959-7	Water supply-Town of Stettler, Alberta. Meneley, W.A.; 9 pages. \$1.00	1962-9	Use of echo sounders to measure scour at bridges. Neill, C.R.; 32 pages, 2 appendixes, 12 figures. \$3.50
1959-8	Pumping test results for an aquifer under water table conditions at Andrew, Alberta. Gabert, G.M., LeBreton, E.G.; 52 pages, 13 figures, 18 tables. \$5.50	1963-1	Laboratory and field studies of expansive subgrade soils in Alberta. Hamilton, A.B.; 46 pages, 15 figures, 6 tables. \$5.00
1960-1	The groundwater potential of alluvial terraces along the Wapiti River, south of Grande Prairie, Alberta. Jones, J.F.; 25 pages, 2 figures, 4 tables. \$2.50	1963-2	Resins and waxes in coals. Campbell, J.D.; 8 pages. \$1.00
1961-1	Groundwater exploration program-Hanna, Alberta. Kunkle, G.R.; 70 pages, 6 appendixes, 12 figures, 1 table. \$7.50	1964-1	Geology of the Maligne Valley, Jasper National Park, Alberta. Roed, M.A.; 62 pages, 5 figures, 32 plates; Economic Mineral File ZZZ-IR-036, Geodial File 700943. \$6.50
1961-2	Report of investigations for industrial groundwater supply for the city of Red Deer, Alberta. Toth, J.; 25 pages, 10 figures. \$3.00	1964-2	A review of soil cement quality control 1962 data. Shields, B.P.; 33 pages, 1 appendix, 8 figures, 6 tables. \$3.50
1961-3	Municipal water supply, Town of Edson, Alberta. Meneley, W.A.; 23 pages, 1 appendix, 7 figures, 1 map. \$10.00	1964-3	Hydrologic data on floods in the Red Deer River. Neill, C.R., Gehmlich, G.V., Taylor, E.F.; 16 pages, 6 figures, 3 tables, 1 map. \$3.00
1961-4	Potential groundwater resources in the vicinity of Battle River near Wetaskiwin, Alberta. Meneley, W.A.; 24 pages, 5 figures. \$7.50	1964-4	Local scour around bridge piers. Neill, C.R.; 48 pages, 17 figures, 8 tables. \$5.50
1961-5	Report on hydraulic model studies for Sundre bridge. Neill, C.R.; 23 pages, 1 appendix, 25 plates. \$2.50	1964-5	Freezing shrinkage in compacted clays. Hamilton, A.B.; 24 pages, 8 figures, 2 tables. \$2.50
1961-6	Report on experiments on the hydraulics of culverts. Neill, C.R.; 32 pages, 17 figures, 6 plates. \$3.50	1964-6	Pavement roughness measurements with the BPR roughness indicator. Shields, B.P.; 27 pages, 12 figures, 3 tables. \$3.00
1961-7	Progress report on the measurement of subgrade moisture and density with nuclear devices. Rix, H.H.; 26 pages, 14 figures, 3 tables. \$3.00	1965-1	A comparison of rare floods on larger streams in Alberta. Neill, C.R.; 15 pages, 4 figures, 1 table. \$1.50
1961-8	Water supply study prepared for the City of Grande Prairie, Alberta. Jones, J.F.; 155 pages, 5 figures. \$16.00	1965-2	Groundwater possibilities in the area of the provincial gaol site near Peace River, Alberta. Tokarsky, O.; 14 pages, 3 appendixes, 2 figures. \$1.50
1962-1	Vulcan, Alberta, well evaluation summary. Gabert, G.M.; 25 pages, 2 appendixes, 5 tables. \$2.50	1965-3	Sucker Creek Indian Reserve test drilling program. Tokarsky, O.; 35 pages, 1 figure, 1 map. \$4.50
1962-2	Stettler groundwater exploration program. VandenBerg, A.; 43 pages, 4 appendixes, 7 figures, 1 table. \$5.00	1965-4	Strip coal assessment survey, Ardley coal zone, central Red Deer River area, Alberta. Campbell, J.D.; 49 pages, 3 appendixes, 8 figures, 6 maps. \$11.00
1962-3	A review of 1961 soil-cement quality control data. Hutchinson, B.G.; 14 pages, 5 tables. \$1.50	1965-5	Kananaskis gypsum deposit. Halferdahl, L.B.; 3 pages; Economic Mineral File GYP-IR-05, Geodial File 700781. \$1.00
1962-4	Muskeg research with special reference to highways in Alberta. Anderson, K.O.; 18 pages, 1 appendix, 4 figures. \$2.00	1965-6	Channel regime of the lower Red Deer River. Neill, C.R.; 91 pages, 4 appendixes, 16 figures, 12 plates, 10 tables. \$17.00
1962-5	Summary of lime-pozzolan stabilization of fine grained soils. Hutchinson, B.G.; 20 pages, 1 figure, 7 tables. \$2.00		

1965-7	A review of soil cement quality control 1963 data. Shields, B.P.; 23 pages, 8 figures, 6 tables. \$2.50	1967-8	Stability of coarse bed-material in open channel flow. Neill, C.R.; 70 pages, 2 appendixes, 23 figures, 4 tables. \$8.00
1965-10	Evaluation of the Grande Prairie alluvial-terrace water supply. Lennox, D.H.; 22 pages. \$2.50	1967-9	Ice pressure measurements at Hondo bridge, spring 1967. Neill, C.R., Shields, B.P., Shultz, H.; 29 pages, 1 appendix, 18 figures, 2 tables. \$4.00
1965-11	The occurrence of gold in Alberta rivers. Halferdahl, L.B.; 21 pages, 1 figure; Economic Mineral File AU-IR-02, Geodial File 700776. \$2.00	1967-10	Regime characteristics of North Saskatchewan River near Drayton Valley. Galay, V.J.; 71 pages, 24 figures, 18 plates, 8 tables. \$13.00
1966-1	Final results, Grande Prairie, Alberta deep test hole. Tokarsky, O.; 14 pages, 2 appendixes, 2 figures, 1 table. \$2.00	1967-11	Interim report on regime characteristics of North Saskatchewan River near Drayton Valley. Galay, V.J.; 84 pages, 1 appendix, 30 figures, 27 plates, 8 tables. \$17.50
1966-2	The preglacial Edson, Alberta buried valley aquifer. Lennox, D.H.; 5 pages. \$1.00	1967-12	Chemical composition of an Alberta tall oil. Mitchell, D.L.; 50 pages, 1 appendix, 30 figures. \$5.00
1966-3	Water well design-Links Ranch. Gabert, G.M.; 26 pages, 1 appendix, 15 figures, 5 tables. \$3.00	1968-1	Geology and groundwater resources of the Grimshaw-Cardinal Lake area. Tokarsky, O.; 60 pages, 3 tables. \$6.00
1966-4	Pump test of an alluvial aquifer at Redcliff and results. VandenBerg, A.; 42 pages, 3 appendixes, 10 figures, 1 table. \$4.50	1968-2	Exploration for groundwater in the Red Deer area. Lennox, D.H.; 84 pages, 4 appendixes, 9 figures, 1 table. \$10.00
1966-5	Exploration and testing of an unconfined aquifer near Cadogan, Alberta. Gabert, G.M., VandenBerg, A.; 64 pages, 3 appendixes, 6 figures. \$6.50	1968-3	At attempt to convert an abandoned oil well to a water well in the Joffre field. Turner, W.R.; 10 pages, 2 figures. \$1.00
1966-6	Till project: groundwater contribution. LeBreton, E.G.; 5 pages. \$1.00	1968-4	Permeability of a buried preglacial valley near the Hamilton Lake field. Lennox, D.H.; 8 pages, 5 figures. \$1.00
1966-7	Second interim report on the feasibility study for dewatering the overburden in GCOS lease 86. Kahil, A.; 18 pages, 1 appendix, 2 tables, 3 plates. \$5.00	1968-5	The groundwater regime near Red Deer, Alberta (determined from mapping naturally occurring surficial phenomena). Clissold, R.; 144 pages, 2 appendixes, 36 figures, 4 tables. \$15.00
1966-8	Catastrophic advance of the Steele Glacier, Yukon, Canada. Bayrock, L.A.; 39 pages, 4 figures, 17 plates, 3 tables; Economic Mineral File ZZZ-IR-038, Geodial File 700944. \$4.00	1968-6	Memo on the effect of the sump on the dewatering of the overburden in GCOS lease 86. Kahil, A.; 20 pages, 16 figures. \$2.50
1966-9	Geological report: River bank stability study. Roed, M.A.; 51 pages, 2 appendixes, 5 plates. \$5.00	1968-7	Interim report on the feasibility study for dewatering the overburden in GCOS lease 86. Kahil, A.; 52 pages, 5 figures, 8 tables. \$6.00
1967-1	Organic soils tour-Alberta soil survey. 38 pages, 2 figures. \$4.00	1969-8	Chevron Standard 13-1 oilfield injection source well. Currie, D.V.; 49 pages, 1 appendix, 9 figures. \$6.00
1967-2	Instructions for using the Hydrodat computer-oriented system for the storage and retrieval of groundwater data. Turner, W.R.; 78 pages, 1 appendix, 11 figures. \$8.00	1968-9	A re-examination of the beginning of movement for coarse granular bed materials. Neill, C.R.; 64 pages, 3 appendixes, 17 figures, 8 tables. \$6.50
1967-3	Contamination of shallow aquifers caused by the injection of brines for secondary recovery, Pembina Oil Field, Alberta. VandenBerg, A.; 5 pages. \$1.00	1968-10	Measurements of the bed-load discharge of the Elbow River. Hollingshead, A.B.; 167 pages, 3 appendixes, 34 figures, 27 plates, 14 tables. \$17.00
1967-4	Three Hills, Alberta pump test. VandenBerg, A.; 37 pages, 5 figures. \$5.50	1968-11	Chemical composition of some Alberta asphalt cements. Shields, B.P.; 14 pages, 2 appendixes, 3 figures, 2 tables. \$1.50
1967-5	Controlling gas production from a deep groundwater test hole near Red Deer, Alberta. Turner, W.R.; 3 pages, 3 figures. 14.00	1968-12	An investigation of low temperature transverse cracking of flexible pavements in relation to asphalt source. Shields, B.P.; 56 pages, 1 appendix, 15 figures, 2 plates, 10 tables. \$6.00
1967-6	Progress report on the hydrologic balance from a large prairie drainage basin in central Alberta, Canada. Stevenson, D.; 8 pages, 1 figure. \$1.00		
1967-7	Limestone on Leyland Mountain near Cadomin, Alberta. Halferdahl, L.B.; 19 pages, 5 figures, 2 tables; Economic Mineral File LST-IR-04, Geodial File 700803. \$2.00		

1968-13 Model study for Smoky River bridge near Grande Cache. Charbonneau, A.L., Neill, C.R.; 21 pages, 5 figures, 12 plates. \$2.00

1968-14 Sediment transport measurements, Elbow River at Bragg Creek. Hollingshead, A.B.; 26 pages, 2 appendixes, 11 figures, 4 tables. \$3.00

1969-1 Groundwater availability in the Hamilton Lake area, Alberta. LeBreton, E.G.; 27 pages, 3 figures. \$5.00

1969-2 Groundwater exploration project near Fox Creek, Alberta, phase two. VandenBerg, A.; 85 pages, 4 appendixes, 36 figures, 5 tables. \$8.50

1969-3 Groundwater report on the Colinton area, Alberta. LeBreton, E.G.; 32 pages, 1 figure, 1 map. \$5.50

1969-4 Groundwater resources in the general Keg River area, Alberta. Tokarsky, O.; 15 pages, 3 appendixes, 2 figures. \$2.00

1969-5 The yield and development of a supply from a sandstone aquifer near Red Deer. Gabert, G.M.; 20 pages, 6 figures, 2 tables. \$2.00

1969-6 Hydrology of Streeter Basin. Stevenson, D.; 22 pages. \$2.50

1969-8 Measurements of ice thickness and breakup forces. Neill, C.R.; 49 pages, 2 appendixes, 22 figures, 2 tables, 1 map. \$6.00

1969-9 Development of a modified PCA road meter for pavement roughness testing. Wagner, H.L., Shields, B.P.; 24 pages, 2 appendixes, 12 figures. \$2.50

1969-10 Hydrogeology of the Cache Percotte Basin, Alberta, Canada. Stevenson, D.; 81 pages, 2 appendixes, 9 figures, 8 tables, 2 maps. \$8.00

1970-1 A hydrogeological report of the Hobbema Indian Reserve, Alberta. LeBreton, E.G.; 25 pages, 9 figures. \$7.00

1970-2 Criteria for selection of sites for solid waste disposal. Green, R., Currie, D.V.; 17 pages, 7 figures. \$2.00

1970-3 Alberta foothills coal, extracts from published reports of Research Council of Alberta. Campbell, J.D.; 74 pages, 24 figures, 4 tables, 2 maps. \$9.50

1970-4 Structural failure of a soil cement base pavement. Shields, B.P.; 40 pages, 11 figures, 3 plates, 9 tables. \$4.00

1970-5 Report on bridge pier scour surveys. Hollingshead, A.B., Schultz, H.; 65 pages, 2 appendixes, 27 figures, 13 tables. \$8.00

1970-6 Model report on Highwood River at High River. Hollingshead, A.B., Charbonneau, A.L.; 44 pages, 2 appendixes, 13 figures, 1 table. \$5.00

1970-7 Development of a CHLOE Profilometer for pavement roughness measurement. Wagner, H.L.; 28 pages, 2 appendixes, 14 figures. \$3.00

1970-8 Soils of the Fort McMurray Region, Alberta, townships 88-89, ranges 8-11, and their relation to agricultural and urban development. Crown, P.H., Twardy, A.G.; 55 pages, 2 appendixes, 7 figures, 8 tables. \$6.00

1971-1 Investigation of contents of lead and mercury in groundwater in the Drayton Valley district. Carlson, V.A.; 21 pages, 1 appendix, 1 figure. \$3.00

1971-2 Geologic features and mineral resources of the Wapiti-Grande Cache region, northwestern Alberta, as related to highway engineering. McPherson, R.A., Mellon, G.B.; 32 pages, 2 figures, 1 table; Economic Mineral File ZZZ-IR-017, Geodial File 700928. \$3.50

1971-3 Brief on the environmental impact of surface mining in Alberta. Mellon, G.B.; 20 pages, 1 appendix, 1 figure, 1 table; Economic Mineral File C-IR-002, Geodial File 700957. \$2.00

1971-4 Analysis of soil cement design. Somayajulu, Y.P., Anderson, K.O.; 68 pages, 7 appendixes, 8 figures, 5 tables. \$7.00

1971-5 Model tests on local scour around proposed Fort Vermilion bridge piers. Neill, C.R., Evans, B.J.; 26 pages, 13 figures, 1 table. \$3.00

1971-6 Measurements of ice forces on bridge piers, 1970 and 1971. Neill, C.R., Saunders, H.D., Schultz, H.; 56 pages, 1 appendix, 21 figures, 9 tables. \$5.50

1971-7 Structural evaluation of highway pavements by surface wave method. Shields, B.P.; 28 pages, 12 figures. \$3.00

1971-8 Skid resistance of chip seal coats. Christison, J.T.; 22 pages, 12 figures, 6 tables. \$2.50

1971-9 Preliminary hydraulic model tests on Bassano Dam Spillway. Charbonneau, A.L., Evans, B.J., Neill, C.R.; 49 pages, 10 figures, 23 plates, 3 tables. \$6.00

1971-10 Dewatering scheme for overburden of Great Canadian Oil Sands Fort McMurray, Alberta. Hackbarth, D.A.; 72 pages, 2 appendixes, 6 figures, 6 tables, 3 maps. \$11.00

1971-11 Collection and compilation of groundwater data in the Marmot Creek experimental basin. Stevenson, D.; 102 pages, 1 appendix, 12 figures, 3 tables. \$11.50

1972-1 Geology of the Peace-Athabasca River delta region, Alberta. Bayrock, L.A., Root, J.D.; 59 pages, 5 appendixes, 4 figures, 7 maps; Economic Mineral File ZZZ-IR-040, Geodial File 700945. \$6.00

1972-2 Fort Chipewyan ornamental buildingstone project, Chipewyan red granite. Godfrey, J.D.; 31 pages, 1 appendix, 7 figures, 2 tables; Economic Mineral File STN-IR-05, Geodial File 700767. \$4.50

1972-3 Alberta Plains coals, extracts from published reports of Research Council of Alberta. Campbell, J.D.; 131 pages, 50 figures, 5 tables, 2 maps. \$15.00

1972-4 Mineral resources of northwest-central Alberta. Mellon, G.B.; 16 pages, 4 figures. \$2.00

1972-5 Industrial and metallic mineral resources of Alberta. Mellon, G.B., Hamilton, W.N.; 16 pages, 2 figures, 1 table; Economic Mineral File ZZZ-IR-019, Geodial File 700930. \$2.00

1972-6 A management model for soil-cement base pavements. Shields, B.P.; 12 pages, 4 figures. \$1.50

1972-7 Analysis of channel regime, North Saskatchewan River, Edmonton to provincial boundary. Neill, C.R., Nwachukwu, B.A.; 76 pages, 35 figures, 12 plates, 17 tables. \$18.50

1972-8 Interim report on laboratory study of basket-type bed-load samplers. Neill, C.R., Gibbs, C.J.; 22 pages, 7 figures, 6 tables. \$2.50

1972-9 Some experimental investigations on circular wall jets. Pani, B.S.; 40 pages, 16 figures. \$4.00

1972-10 Program package for storage and analysis of river data. Arora, V.K., Kellerhals, R., Bray, D.I.; 85 pages, 3 appendixes, 38 tables. \$8.50

1972-11 Hydraulics of end-dump closure of alluvial channels. Das, B.P.; 252 pages, 4 appendixes, 54 figures, 18 tables. \$25.00

1972-12 Geology and mineral resources, northwest-central Alberta (Hinton to Grande Prairie). Mellon, G.B., Kramers, J.W.; 14 pages, 3 figures; Economic Mineral File ZZZ-IR-012, Geodial File 700924. \$1.50

1972-13 Geology and terrain evaluation: Alberta resources railway and alternative routes. Mellon, G.B., Kramers, J.W., Kathol, C.P.; 35 pages, 1 appendix, 12 figures, 4 plates, 2 tables. \$3.50

1972-14 Gravel and sand resources of the Grande Prairie area. Holter, M.E., Kathol, C.P., Waterman, C.; 36 pages, 27 figures, 6 plates, 7 maps. \$11.00

1972-15 Preliminary results of attempted coal recovery and ash content reduction of waste material from the Luscar strip mining operation. Morrison, D.N.; 8 pages, 5 figures. \$1.00

1972-16 The manufacture of sodium pyrosulphite (sodium metabisulphite). Habgood, H.W., Painter, T.; 11 pages, 1 figure. \$1.00

1972-17 Preparing a soil monolith. Greenlee, G.M.; 8 pages, 8 figures. \$1.00

1972-18 Bibliography of groundwater studies in Alberta: 1912-1971. Hackbarth, D.A., Nielsen, G.L., Bainey, S.; 44 pages. \$4.50

1972-19 Industrial minerals and their utilization in Alberta. Hamilton, W.N.; 33 pages; Economic Mineral File ZZZ-IR-018, Geodial File 700929. \$4.00

1973-4 Soil interpretations for selected components of community development within the town of Ponoka, Alberta. Scheelar, M.D.; 22 pages, 1 appendix, 1 figure, 3 tables, 1 map. \$3.50

1973-5 Soil interpretations for selected components of community development within the new town of Rainbow Lake, Alberta. Macyk, T.M., Scheelar, M.D.; 28 pages, 2 appendixes, 1 figure, 1 table, 1 map. \$4.00

1973-6 Soil interpretations for selected components of community development adjacent to Morinville, Alberta. Scheelar, M.D.; 24 pages, 1 figure, 3 tables, 1 map. \$4.50

1973-7 Detailed soil survey of the Camrose area. Scheelar, M.D.; 24 pages, 1 appendix, 1 figure, 3 tables, 1 map. \$4.00

1973-8 Soil survey of Entrance Provincial Park and interpretation for recreational use. Greenlee, G.M.; 75 pages, 3 table, 2 maps. \$10.00

1973-9 Soil interpretations for aiding in the planning of mobile home sites, within the town of Bashaw, Alberta. Scheelar, M.D.; 10 pages, 2 tables, 1 map. \$2.00

1973-12 Soil survey of Lesser Slave Lake Provincial Park and interpretation for recreational use. Greenlee, G.M.; 76 pages, 4 tables, 5 maps. \$13.00

1973-15 Soil survey of Young's Point Provincial Park and interpretation for recreational use. Greenlee, G.M.; 62 pages, 6 tables, 1 map. \$7.50

1973-16 Soil survey of area adjacent to Calling Lake, Alberta, and interpretation for recreational use. Greenlee, G.M.; 62 pages, 6 tables, 1 map. \$7.50

1973-18 Groundwater availability in the Morley Indian Reserve, Alberta - preliminary evaluation. Tokarsky, O.; 14 pages, 1 figure. \$2.50

1973-20 The growth of large hail. English, M.; 84 pages, 2 appendixes, 42 figures, 23 tables. \$8.50

1973-21 Clear Hills iron deposits, information needs. Bertram, E.F., Hamilton, W.N., Green, R.; 13 pages, 1 figure; Economic Mineral File FE-IR-08, Geodial File 700792. \$1.50

1973-22 Geological factors affecting land development at Fort McMurray, Alberta. Kathol, C.P., McPherson, R.A.; 30 pages, 17 figures, 4 tables, 1 map; Economic Mineral File ZZZ-IR-032, Geodial File 700939. \$4.00

1973-23 Athabasca tar sands study, the environmental impact of in situ technology. Carrigy, M.A., McLaws, I.J.; 86 pages, 16 figures, 9 plates, 9 tables, 6 maps; Economic Mineral File ZZZ-IR-034, Geodial File 700941. \$10.00

1973-24 Quaternary stratigraphy of central Alberta. Holter, M.E.; 30 pages, 20 figures; Economic Mineral File ZZZ-IR-031, Geodial File 700938. \$3.00

1973-25 The Oldman River lead-zinc occurrence, southwestern Alberta. Holter, M.E.; 34 pages, 10 figures, 4 plates, 3 tables; Economic Mineral File PB-IR-02, Geodial File 700795. \$3.50

1973-26 Mineral resource development in the Kananaskis River basin. Hamilton, W.N.; 3 pages. \$1.00

1973-27 Measurements of ice forces and strengths, spring 1972. Neill, C.R., Schultz, H.; 28 pages, 8 figures, 9 tables. \$3.00

1973-28 A preliminary analysis of truck axle loadings on Alberta highways. Shields, B.P.; 50 pages, 2 appendixes, 14 figures, 4 tables. \$5.00

1973-29 Laboratory testing of model VUV bedload sampler. Neill, C.R., Gibbs, C.J.; 18 pages, 3 figures, 2 plates, 10 tables. \$2.00

1973-30 Development and application of pavement performance models for granular base pavements in Alberta. Christison, J.T.; 30 pages, 1 appendix, 14 figures, 4 tables. \$3.50

1973-31 A proposed method for determining allowable axle group and gross vehicle loadings. Christison, J.T.; 19 pages, 3 figures, 2 tables. \$2.00

1973-32 Transverse mixing in an ice-covered river. Kellerhals, R., Engmann, J.E.O.; 26 pages, 7 figures, 3 tables. \$3.00

1973-33 Hydraulic and morphologic characteristics of Athabasca River near Fort Assiniboine – the anatomy of a wandering gravel river. Neill, C.R.; 65 pages, 30 figures, 8 tables. \$8.00

1973-34 Peace River iron deposits. Bertram, E.F., Mellon, G.B.; 52 pages, 1 appendix, 5 figures, 2 plates, 5 tables; Economic Mineral File 1 FE-IR-06, Geodial File 700790. \$5.50

1973-35 Notes on the occurrence of iron-bearing minerals associated with the oil sands. 47 pages, 14 figures, 20 tables. \$5.00

1973-36 Stony Islands copper showing: Slave River, Alberta. Godfrey, J.D.; 21 pages, 7 figures, 8 plates; Economic Mineral File CU-IR-002, Geodial File 700947. \$3.00

1973-37 Geological report on a landslide along the Ram River, Rocky Mountain House area, Alberta. Kathol, C.P., McPherson, R.A.; 17 pages, 1 appendix, 5 figures; Economic Mineral File ZZZ-IR-041, Geodial File 700946. \$2.00

1973-38 Great Canadian Oil Sands tailings disposal: Part I. Schulz, K.F., Morrison, D.N.; 8 pages. \$1.00

1974-1 Soil survey of Fish Creek Valley adjacent to Calgary, Alberta and interpretation for recreational use. Greenlee, G.M.; 68 pages, 6 tables, 1 map. \$8.00

1974-2 Soil survey of Bow Valley Provincial Park and adjacent Kananaskis area and interpretation for recreational use. Greenlee, G.M.; 77 pages, 6 tables, 1 appendix, 2 maps. \$10.00

1974-3 Soil survey of the Wildcat Hills area and interpretation for recreational use. Greenlee, G.M.; 56 pages, 1 appendix, 6 tables, 1 map. \$7.00

1974-4 Addendum to soil survey of Wildcat Hills area and interpretation for recreational use. Greenlee, G.M.; 30 pages, 1 appendix, 4 tables, 1 map. \$4.00

1974-5 Soil survey of areas adjacent to McGregor Lake, Travers Reservoir, and Little Bow Lake and interpretation for recreational use. Greenlee, G.M.; 70 pages, 6 tables, 5 maps. \$12.00

1974-6 Soil survey of Bragg Creek Provincial Park and interpretation for recreational use. Greenlee, G.M.; 49 pages, 1 appendix, 6 tables, 1 map. \$6.00

1974-7 Soil survey of area adjacent to Lac Ste. Anne and interpretation for recreational use. Greenlee, G.M.; 59 pages, 1 appendix, 6 tables, 1 map. \$7.00

1974-10 Soil survey for community development, Leduc, Alberta. Scheelar, M.D.; 27 pages, 1 appendix, 1 figure, 7 tables, 1 map. \$4.00

1974-11 Soil survey of Beauvais Lake Provincial Park and interpretation for recreational use. Greenlee, G.M.; 67 pages, 6 tables, 1 map. \$8.00

1974-12 Soil survey of Police Outpost Provincial Park and interpretation for recreational use. Greenlee, G.M.; 56 pages, 1 appendix, 6 tables, 1 map. \$7.00

1974-13 Soil survey of Gregoire Lake Provincial Park and adjacent area and interpretation for recreational use. Greenlee, G.M.; 64 pages, 1 appendix, 6 tables, 1 map. \$7.50

1974-14 Soil survey of Woolford Provincial Park and interpretation for recreational use. Greenlee, G.M.; 51 pages, 1 appendix, 6 tables, 1 map. \$6.50

1974-15 Soil survey of Crimson Lake Provincial Park and interpretation for recreational use. Greenlee, G.M.; 73 pages, 1 appendix, 6 tables, 1 map. \$9.00

1974-17 Soil survey of Pigeon Lake Provincial Park and interpretation for recreational use. Greenlee, G.M.; 49 pages, 1 appendix, 6 tables, 1 map. \$6.00

1974-20 Detailed soil survey of the Canmore area. Knapik, L.J.; 40 pages, 2 figures, 14 tables, 1 map. \$5.00

1974-25 Oil sands and the chemical industry in Alberta. Feick, J.E.; 9 pages, 7 figures. \$1.00

1974-26 The potential for single cell protein production from hydrocarbons in Alberta. Feick, J.E.; 152 pages, 2 appendixes, 40 tables. \$15.50

1974-27 Summary report, Clear Hills iron sampling program. Hamilton, W.N.; 17 pages, 4 figures, 1 plate; Economic Mineral File FE-IR-09, Geodial File 700793. \$2.00

1974-30 Alberta hail project field program. Deibert, R.J., Renick, J.H.; 37 pages, 13 figures, 19 tables. \$4.00

1974-35 Hydrodat: a computerized storage and retrieval system for seismic shot-hole data. Bibby, R., Neilson, W.J., Orlecky, J.; 58 pages, 6 figures. \$6.00

1974-36 Marl resources of the Hand Hills area. Holter, M.E.; 44 pages, 32 figures, 2 plates, 1 table; Economic Mineral File MRL-IR-03, Geodial File 700818. \$4.50

1974-37 Marl resources of the Peace River area. Holter, M.E.; 50 pages, 25 figures, 5 plates, 4 tables; Economic Mineral File MRL-IR-04, Geodial File 700819. \$5.00

1974-38 A procedure for estimating elastic modulii of three-layer systems for surface deflection bowl measurements. Christison, J.T.; 18 pages, 4 figures, 2 tables. \$2.00

1974-39 Truck factors, 1970-1972. Shields, B.P.; 41 pages, 1 appendix, 11 figures, 11 tables. \$4.00

1974-40 Possibilities for using suspended sediment rating curves in the Canadian sediment survey program. Kellerhals, R., Abrahams, A.D., vonGaza, H.; 148 pages, 4 appendixes, 8 figures, 9 tables. \$15.00

1974-41 A theory of longitudinal dispersion. Beltaos, S.; 35 pages, 1 appendix, 7 figures. \$3.50

1974-42 Preliminary report on the gravel resources of the Red Deer area, explanatory notes. Holter, M.E.; 165 pages, 152 figures, 2 tables; Economic Mineral File SGL-IR-03, Geodial File 700834. \$16.50

1974-43 Mineral resources of Alberta; 25 pages, 7 figures. \$3.00

1974-44 Great Canadian Oil Sands tailings disposal: Part 2. Schulz, K.F., Morrison, D.N.; 11 pages. \$1.50

1975-1 Soil survey of Cross Lake Provincial Park and interpretation for recreational use. Greenlee, G.M.; 56 pages, 1 appendix, 6 tables, 1 map. \$6.50

1975-2 Soil survey of Winagami Lake Provincial Park and interpretation for recreational use. Greenlee, G.M.; 52 pages, 1 appendix, 6 tables, 1 map. \$6.50

1975-3 Detailed soil survey of the Airdrie area. Scheelar, M.D.; 43 pages, 2 figures, 13 tables, 1 map. \$5.50

1975-4 Detailed soil survey of the Strathmore area. Scheelar, M.D.; 45 pages, 2 figures, 13 tables, 1 map. \$5.50

1975-5 Soil survey of Long Lake Provincial Park and interpretation for recreational use. Greenlee, G.M.; 54 pages, 1 appendix, 6 tables, 1 map. \$6.50

1975-7 Detailed soil survey of the Cochrane area. Scheelar, M.D.; 49 pages, 2 figures, 13 tables, 1 map. \$6.00

1975-8 Detailed soil survey of the Black Diamond - Turner Valley area. Scheelar, M.D.; 51 pages, 2 figures, 13 tables, 1 map. \$6.50

1975-10 Detailed soil survey of the St. Albert area. Knapik, L.J., Veauvy, C.F.; 47 pages, 2 figures, 14 tables, 1 map. \$6.00

1975-11 Detailed soil survey of the Okotoks area. Scheelar, M.D.; 53 pages, 2 figures, 13 tables, 1 map. \$6.50

1975-12 Detailed soil survey of the High River area. Scheelar, M.D.; 51 pages, 2 figures, 13 tables, 1 map. \$6.00

1975-19 Primrose Lake air weapons range oil sands evaluation program, 1974-1975. 74 pages, 5 appendixes, 12 figures, 1 table. \$12.50

1975-20 Current research on Alberta hailstorms, progress report 1974-1975. 121 pages, 1 appendix, 36 figures, 8 tables. \$12.50

1975-21 A provisional method for the structural design of overlays on soil-cement base pavements. Shields, B.P.; 20 pages, 6 tables, 5 figures. \$2.00

1975-22 Measuring strains and deflections in pavements under moving wheel loads. Shields, B.P., Chizawsky, L.M.; 14 pages, 7 figures. \$1.50

1975-23 Strains and deflections in pavements under moving single axle, dual tire loads. Christison, J.T.; 35 pages, 16 figures, 5 tables. \$3.50

1975-25 Sand and gravel and peat moss development possibilities for northern Albertans. Hamilton, W.N.; 26 pages, 8 figures, 3 tables, 1 map. \$4.00

1975-26 Soils of the Fort McMurray region, Alberta and their relation to agricultural and urban development. Crown, P.H., Twardy, A.G.; 55 pages, 7 figures, 8 tables, 2 appendixes. \$5.50

1976-1 Soil survey of Kananaskis Lakes area and interpretation for recreational use. Greenlee, G.M.; 78 pages, 1 appendix, 20 tables, 6 maps. \$14.00

1976-2 Evolution of pollution abatement technology as applied to the Alberta oil sands. 175 pages, 21 figures, 11 tables. \$17.50

1976-3 Soil survey of Lund's Point area on southern shore of Cold Lake, Alberta and interpretation for recreational use. Greenlee, G.M.; 82 pages, 16 tables, 2 maps. \$11.00

1976-4 Addendum to soil survey of area adjacent to Calling Lake, Alberta and interpretation for recreational use. Greenlee, G.M.; 5 pages, 2 maps. \$3.00

1976-6 Factors that affect the sulphonation rate of lead dioxide candles. Paskall, H.G.; 52 pages, done for Western Research and Development Ltd. \$5.50

1976-13 Detailed soil survey of the Canmore Corridor area. Scheelar, M.D.; 48 pages, 2 figures, 13 tables, 2 maps. \$7.00

1976-15 Sand and gravel resources of the Battle River region, central Alberta. Shetsen, I.; 17 pages, 2 figures, 5 maps; Economic Mineral File SGL-IR-05, Geodial File 700836. \$7.00

1976-16 Geology and coal resources of the Horseshoe Canyon Formation of central Alberta. Holter, M.E., Chu, M., Yurko, J.R.; 31 pages, 25 figures, 2 tables, 8 plates, 22 maps. \$25.00

1976-19 Part per billion gas calibration mixes, a state-of-the-art review. Quiring, W.J.; 34 pages, 1 appendix, 2 figures, 7 tables, prepared for Western Research and Development Ltd. \$3.50

1976-20	Directory of chemical and physical testing facilities of Alberta. 142 pages. \$14.00	1977-12	Soil survey of area adjacent to Pinehurst Lake, Alberta, and interpretation for recreational use. Greenlee, G.M.; 58 pages, 6 tables, 1 map. \$7.00
1976-25	Hydrogeological investigations of a coal seam near Halkirk, Alberta. Vogwill, R.I.J.; 53 pages, 33 figures, 4 tables. \$5.50	1977-13	Hydrologic and hydraulic characteristics of the Athabasca River from Fort McMurray to Embarras. Doyle, P.F.; 52 pages, 18 figures, 5 tables. \$6.00
1976-26	DLSPLIT: a computer program for translating Dominion Land Survey co-ordinates to Universal Transverse Mercator compatible co-ordinates. Lytviak, A.T.; 52 pages, 12 figures, 1 table. \$5.50	1977-14	Surficial geology and erosion potential Rocky Mountains and the Foothills of Alberta. Reimchen, T.H., Bayrock, L.A.; 157 pages, 3 appendixes, 6 figures, 7 tables, 50 plates, 226 maps, text is \$16.00, maps are \$1.00 each.
1976-30	Evaluation of drill-core exploration of sluice site number one, Chipewyan red granite building-stone project. Godfrey, J.D.; 51 pages, 1 appendix, 38 figures. \$7.00	1977-15	Clay tailings from Alberta oil sands and other sources. Kessick, M.A.; 87 pages, 1 appendix, 4 figures. \$9.50
1976-31	Longitudinal dispersion in a natural stream: Lesser Slave River, Alberta. Beltaos, S., Day, T.J.; 65 pages, 1 appendix, 10 figures, 6 tables. \$6.50	1977-16	Soil survey of Moose Lake Provincial Park and interpretation for recreational use. Greenlee, G.M.; MacMillan, R.A.; 102 pages, 1 appendix, 19 tables, 2 maps. \$13.00
1976-32	An analysis of truck axle weights in relation to increased load allowances. Shields, B.P.; 16 pages, 6 figures, 3 tables. \$2.00	1977-17	Soil survey of Dry Island Buffalo Jump Provincial Park and interpretation for recreational use. Greenlee, G.M., MacMillan, R.A.; 123 pages, 19 tables, 2 maps. \$14.50
1976-34	Fort Chipewyan ornamental-buildingstone project, Chipewyan red granite geological reconnaissance of sluice site number two. Godfrey, J.D.; 64 pages, 2 appendixes, 6 figures, 22 plates; Economic Mineral File STN-IR-006, Geodial File 700955. \$6.50	1978-1	Alberta hail project field program 1977. Deibert, R.J.; 97 pages, 9 appendixes, 10 figures, 8 tables. \$10.00
1977-1	Soil survey of Moonshine Lake Provincial Park and interpretation for recreational use. Greenlee, G.M., MacMillan, R.A.; 88 pages, 19 tables, 2 maps. \$11.00	1978-2	Truck weight survey, Alberta: 1970-1977. Shields, B.P., Wagner, H.L.; 19 pages, 9 figures, 8 tables. \$2.00
1977-2	Detailed soil survey of Bragg Creek area. Scheelar, M.D., Veauvy, C.F.; 64 pages, 2 figures, 30 tables, 1 map. \$9.00	1978-3	Peak runoff from small rural watersheds in north-central Alberta. Doyle, P.F.; 28 pages, 10 figures, 2 tables. \$3.00
1977-3	1977 breakup and subsequent ice jam at Fort McMurray. Doyle, P.F.; 29 pages, 15 figures. \$3.00	1978-4	Evaluation of the effects of axle loads on pavement from in situ strain and deflection measurements. Christison, J.T.; 101 pages, 2 appendixes, 45 figures, 18 tables. \$10.50
1977-4	Surficial geology of potential mining areas in the Athabasca oil sands region. Kathol, C.P., McPherson, R.A.; 185 pages, 4 appendixes, 30 figures, 8 tables. \$35.00	1978-5	Transverse mixing in natural streams. Beltaos, S.; 99 pages, 1 appendix, 42 figures, 7 tables. \$13.00
1977-5	Sulfur in precipitation: contribution to an Alberta sulfur inventory. Klemm, R.F.; 133 pages, 68 figures, 18 tables. \$14.00	1978-6	An interpretation of longitudinal dispersion data in rivers. Beltaos, S.; 60 pages, 1 appendix, 14 figures, 2 tables. \$6.00
1977-7	The feasibility of a weather radar near Fort McMurray, Alberta. Barge, B.L. Humphries, R.G., Olson, S.L.; 81 pages, 4 appendixes, 6 figures, 3 tables. \$8.50	1978-7	Tributary mixing characteristics using water quality parameters. Lipsett, A.W., Beltaos, S.; 48 pages, 15 figures, 3 tables. \$5.50
1977-8	Hydrogeology of highway corridors, Jasper National Park. Bernard, D.; 34 pages, 5 appendixes, 3 figures, 12 maps, 8 profiles. \$3.50	1978-8	1978 breakup in the vicinity of Fort McMurray and an investigation of Athabasca River ice jams. Doyle, P.F., Andres, D.; 50 pages, 17 figures, 3 tables. \$5.50
1977-9	Detailed soil survey of the Lac Ste. Anne area, Alberta. Macyk, T.M., Veauvy, C.F.; 59 pages, 1 figure, 17 tables, 4 maps. \$10.00	1978-9	Synthesis of airborne radiometric surveys for the Canadian Shield in northeastern Alberta. Godfrey, J.D., Plouffe, R.D.; 27 pages, 1 appendix, 3 figures, 3 maps. \$6.00
1977-11	Soil survey of Hilliard's Bay area on the northwest shore of Lesser Slave Lake and interpretation for recreational use. MacMillan, R.A., Greenlee, G.M.; 106 pages, 15 tables, 4 maps. \$15.00	1978-10	Detailed soil survey of the Langdon area. Scheelar, M.D.; 59 pages, 2 figures, 30 tables, 1 map. \$7.50
		1978-11	Detailed soil survey of the Acme area. Scheelar, M.D.; 64 pages, 2 figures, 2 tables, 1 map. \$8.00

1978-12	Geology and coal resources of the Wapiti formation of north-central Alberta. Chu, M.; 25 pages, 11 figures, 3 tables, 8 maps. \$11.00	1980-7	Sand and gravel resources of the Athabasca oil sands region, northeastern Alberta: Phase II. The total area. Fox, J.C.; 32 pages, 1 appendix, 8 figures, 2 tables. \$5.00
1978-13	Geology and coal resources of southeastern Alberta. Holter, M.E., Chu, M.; 23 pages, 20 figures, 16 maps. \$19.00	1980-8	Sand and gravel resources of the Cold Lake area, Alberta. Edwards, W.A.D., Fox, J.C.; 45 pages, 27 figures, 11 tables, 12 maps. \$17.00
1979-1	Addendum to soil classification and characterization for grassland ecology study in Cypress Hills, Alberta. Greenlee, G.M.; 31 pages, 1 table. \$3.50	1980-9	Sand and gravel resources of the Grande Prairie area, Alberta. Peterson, B.N.; 38 pages, 1 appendix, 26 figures, 7 maps. \$11.50
1979-2	Updated peak runoff from small rural watersheds in north-central Alberta. Doyle, P.F.; 22 pages, 6 figures, 4 tables. \$2.50	1980-10	Geology and coal resources of the upper part of the Horseshoe Canyon Formation, Red Deer area, Alberta. Nurkowski, J.R.; 26 pages, 17 figures, 1 table, 10 maps. \$13.00
1979-3	Mixing characteristics of the North Saskatchewan River below Edmonton. Beltaos, S., Anderson, M.D.; 57 pages, 25 figures, 4 tables. \$9.00	1980-11	Hydraulic and morphological processes on the Peace River near Fort Vermilion. McLean, D.G., Anderson, M.D.; 118 pages, 31 figures, 17 tables. \$14.00
1979-4	Evaluation of the relative damaging effects of wide base tire loads on pavements. Christison, J.T.; 21 pages, 5 figures, 4 tables. \$2.00	1981-1	Aspen for high quality chemi-mechanical pulps, overview for Alberta. 42 pages, 3 appendixes, 2 figures, 16 tables, for Forest Products Working Group. \$5.50
1979-5	Alberta hail project field program 1978. Deibert, R.J.; 89 pages, 104 figures, 10 tables. \$9.00	1981-2	Soil survey of the Calgary urban perimeter. MacMillan, R.A.; 65 pages, 4 maps, this report has been withdrawn from the Open File Report Series, pending formal publication.
1979-6	Surficial geology and quaternary stratigraphy of the Sand River area, Alberta. Andriashuk, L.D., Fenton, M.M.; 344 pages, 18 map sheets (scale 1:50 000). \$53.00	1981-3	Field measurements of ice forces on bridge piers 1973-1979. Lipsett, A.W., Gerard, R.; 130 pages, 2 appendixes, 47 figures, 11 tables. \$14.00
1979-7	North Saskatchewan River – channel geometry, Berrymore Ferry to Edmonton, and recent regime changes, Bighorn Dam to Edmonton. Doyle, P.F., Thompson, J.H.; 56 pages, 16 figures, 10 tables. \$6.00	1981-4	The conceptual design, equipment requirements and the capital cost of panelboard development facilities. 46 pages, 3 appendixes, 3 figures. \$9.00
1979-8	Dynamic structural response of a massive pier. Lipsett, A.W., Montgomery, C.J.; 52 pages, 19 figures, 3 tables. \$6.00	1981-5	Adhesive filler and extender from aspen bark. 19 pages, 2 appendixes, 7 tables. \$2.50
1979-9	1979 spring breakup and ice jamming on the Athabasca River near Fort McMurray. Doyle, P.F., Andres, D.D.; 38 pages, 17 figures, 3 tables. \$4.00	1981-6	High speed drying of aspen lumber. 34 pages, 2 appendixes, 1 table, 3 figures. \$3.50
1980-1	Soil classification and characterization for selected sites in Cypress Hills Provincial Park. Greenlee, G.M.; 28 pages, 1 table. \$3.00	1981-7	Aggregate resources maps, NTS 82H; A series of maps covering NTS Area 82H at a scale of 1:50 000, \$1.00 each.
1980-3	Sand and gravel resources of the St. Paul and Bonnyville areas, Alberta. Edwards, W.A.D.; 46 pages, 1 appendix, 21 figures, 1 table, 2 maps. \$7.00	1981-8	Sand and gravel resources of the Calgary area, Alberta. Shetsen, I.; 96 pages, 3 appendixes, 39 figures, 18 maps. \$28.00
1980-4	Sand and gravel resources of the Whitecourt area, Alberta. Peterson, B.N.; 44 pages, 2 appendixes, 25 figures, 4 maps. \$9.00	1981-9	Low temperature ammonia oxidation in Alberta soils. Boone, D.R.; 14 pages, 1 figure. \$1.50
1980-5	Data report – channel characteristics of Red Deer River prior to construction of Dickson Dam. Ridgway, T.P., McLean, D.G.; 122 pages, 17 figures, 6 tables. \$13.00	1981-10	Chemical composition and biodegradability of decayed aspen wood. Boone, D.R., Cyr, N.; 22 pages, 4 figures, 3 tables. \$3.00
1980-6	Sand and gravel resources of the Athabasca oil sands region, northeastern Alberta: Phase I. Proposed townsite area. Shetsen, I.; 27 pages, 12 figures. \$3.00	1981-11	Evaluation of ice bridges in the Fort Chipewyan area, Alberta. Lipsett, A.W., Harrington, R.A.; 76 pages, 1 appendix, 26 figures, 7 tables. \$8.50
		1982-1	Preliminary report on the urban geology of the annexed areas in Edmonton. Andriashuk, L.D., MacMillan, R.A.; 31 pages, 3 appendixes, 9 figures. \$12.50

1982-2 Preliminary geological investigations into reported marl deposits on the Saddle Lake Reserve, Alberta. MacDonald, D.E.; 17 pages, 4 figures, 1 table. \$2.00

1982-3 Coal chemistry and quality data from drilling programs in the plains area of Alberta, 1974-1980. Nurkowski, J.R.; 335 pages. \$34.00

1982-4 The areal distribution of rainfall for 1975 and 1976. Kochtubajda, B., English, M.; 9 pages, 2 appendixes, 205 figures. \$1.50

1982-5 Chemical composition and accessibility of carbohydrates in decayed aspen wood. Cyr, N., Schulz, K.F.; 22 pages, 3 figures, 6 tables. \$2.50

1982-6 Test methods for evaluating mechanical properties of waferboard: a preliminary study. MacIntosh, M., Longworth, J.; 132 pages, 3 appendixes, 5 figures, 10 plates, 8 tables. \$13.50

1982-7 The Brazeau Lake Slide, Jasper National Park, Alberta. Cruden, D.M.; 7 pages, 10 figures. \$1.00

1982-8 The machine stress rating of wood panels. 47 pages, 6 figures. \$5.00

1982-9 Scollard member coal, Alix area, drilling report, 1981. Bosman, A.; 47 pages, 6 appendixes, 3 figures. \$5.00

1982-10 Limestone prospects in the vicinity of the Crowsnest Pass: A preliminary assessment. MacDonald, D.E.; Hamilton, W.N.; 41 pages, 2 appendixes, 3 figures, 5 plates, 1 table. \$6.00

1982-11 Limestone resources of the Grande Cache area, Alberta. MacDonald, D.E., Hamilton, W.N.; 50 pages, 1 appendix, 14 figures, 5 plates, 1 table. \$17.50

1982-12 Limestone exploitability in the Alberta Rocky Mountains. Hamilton, W.N.; not available for distribution at this time.

1982-13 Clear Hills iron ore deposit: Geology, mineralogy, and ore reserves. Hamilton, W.N.; 49 pages, 8 figures, 8 tables. \$5.00

1983-1 Application of fluid-rock reaction studies to in situ recovery from oil sand deposits: III. Additional data on an experimental statistical study of water-bitumen shale reactions. Hitchon, B., Boon, J.A.; 25 pages, 1 appendix, 1 figure, 6 tables. \$2.50

1983-2 Geochemical studies: I. Trace elements in Alberta crude oils. Hitchon, B., Filby, R.H.; 149 pages, 1 appendix, 5 figures, 4 tables. \$15.00

1983-3 Overburden or quaternary stratigraphy Firebag River, northeastern Alberta: preliminary report. Fenton, M.M., Mougeot, C.; 6 pages. \$1.00

1983-4 An evaluation of the effects of seismic detonations on water wells. Vogwill, R.I.J.; 166 pages, 4 appendixes, 10 figures, 1 plate, 4 tables. \$17.00

1983-5 Soil survey of Dillberry Lake Provincial Park study area and interpretation for recreational use. Greenlee, G.M.; 53 pages, 2 figures, 18 tables, 3 maps. \$9.00

1983-6 Sulfur in precipitation: Contribution to an Alberta sulfur inventory. Klemm, R.F.; 125 pages, 68 figures, 16 tables. \$14.00

1983-7 Soil survey of Willow Creek Provincial Park study area and interpretation for recreational use. Greenlee, G.M.; 53 pages, 2 figures, 14 tables, 3 maps. \$8.50

1983-8 Soil survey of Lesser Slave Lake Provincial Park and interpretation for recreational use. Greenlee, G.M.; 51 pages, 1 figure, 10 tables, 2 maps. \$7.00

1983-9 Soil survey of Carson-Pegasus Lakes area and interpretation for recreational use. Greenlee, G.M.; 31 pages, 1 figure, 18 tables, 2 maps. \$5.50

1983-10 Soil survey of Whitney Lake Provincial Park study area and interpretation for recreational use. Greenlee, G.M.; 49 pages, 2 figures, 14 tables, 12 maps. \$17.00

1983-11 Coal quality, coal rank variation and its relation to reconstructed overburden, upper cretaceous and tertiary plains coals, Alberta, Canada. Nurkowski, J.R.; 46 pages, 16 figures, 2 tables. \$5.00

1983-12 Field trip guidebook: Sedimentology of the upper cretaceous Judith River (Belly River) Formation, Dinosaur Provincial Park, Alberta. Koster, E.H.; 125 pages, 3 appendixes, 69 figures, 27 plates. \$12.50

1983-13 Soil survey of Big Knife Provincial Park and interpretation for recreational use. Greenlee, G.M.; 50 pages, 2 figures, 16 tables, 3 maps. \$8.00

1983-14 Index for uranium assessment reports for northeastern Alberta. MacGillivray, J.R.; 128 pages, taken from GEODIAL database. \$13.00

1983-15 Index of mineral commodity reports for Alberta. MacGillivray, J.R.; 326 pages, derived from GEODIAL database. \$33.00

1983-16 Structural and sedimentological framework of Lower Cretaceous coal-bearing rocks in the Grande Cache area. Langenberg, C.W.; 27 pages, 16 figures. \$3.00

1983-17 Aggregate resources map - Wapiti. Richardson, R.J.H.; 1 map (NTS 83L scale 1:250 000). \$1.00

1983-18 Aggregate resources map - Gleichen. Fox, J.D.; 1 map (NTS 82I scale 1:250 000). \$1.00

1983-19 Aggregate resources map - Tawatinaw. Edwards, W.A.D., Richardson, R.J.H.; 1 map (NTS 83I scale 1:250 000). \$1.00

1983-20 Preliminary report of the surficial geology and quaternary and stratigraphy of the Edmonton map area. Andriashuk, L.; 17 pages, 3 maps. \$5.00

1983-21 Scollard member coal, Alix area - drilling report 1982. Bosman, A.; 28 pages, 6 appendixes, 2 figures. \$3.00

1983-22 Ice force measurements on bridge piers 1980-1982. Huiskamp, W.J.; 36 pages, 2 appendixes, 13 figures, 8 tables. \$4.00

1983-23 Surficial geology of the Wapiti map area. Andriashuk, L.D.; 4 pages, 1 map (NTS 83L scale 1:250 000). \$1.50

1983-24 Detailed soil survey of the Calmar, Thorsby, Warburg, Breton and Drayton Valley areas. Scheelar, M.D.; 91 pages, 3 appendixes, 3 figures, 16 tables. \$9.50

1983-25 Geochemical studies: 2. Temporal changes in crude oil quality from individual wells. Hitchon, B.; 69 pages, 1 appendix, 1 figure, 23 tables. \$7.00

1984-1 Soil survey of designated areas in the Kakwa Falls region and interpretation for recreational use. Greenlee, G.M.; 91 pages, 2 figures, 18 tables, 9 maps. \$18.00

1984-2 Aggregate resources map - Medicine Hat. 1 map (NTS 72L scale 1:250 000). \$1.00

1984-3 Aggregate resources map - Sand River. 1 map (NTS 73L scale 1:250 000). \$1.00

1984-4 Aggregate resources map - Red Deer. 1 map (NTS 83A scale 1:250 000). \$1.00

1984-5 Aggregate resources map - Edson. 1 map (NTS 83F scale 1:250 000). \$1.00

1984-6 Aggregate resources map - Wabamun Lake. 1 map (NTS 83G scale 1:250 000). \$1.00

1984-7 Aggregate resources map - Whitecourt. 1 map (NTS 83J scale 1:250 000). \$1.00

1984-8 Aggregate resources maps, NTS 72E: A series of maps covering NTS area 72E at a scale of 1:50 000. \$1.00 each.

1984-9 Aggregate resources maps, NTS 72L: A series of maps covering NTS area 72L at a scale of 1:50 000. \$1.00 each.

1984-10 Aggregate resources maps, NTS 73D: A series of maps covering NTS area 73D at a scale of 1:50 000. \$1.00 each.

1984-11 Aggregate resources maps, NTS 73E: A series of maps covering NTS area 73E at a scale of 1:50 000. \$1.00 each.

1984-12 Aggregate resources maps, NTS 82I: A series of maps covering NTS area 82I at a scale of 1:50 000. \$1.00 each.

1984-13 Aggregate resources maps, NTS 83A: A series of maps covering NTS area 83A at a scale of 1:50 000. \$1.00 each.

1984-14 Aggregate resources maps, NTS 83F: A series of maps covering NTS area 83F at a scale of 1:50 000. \$1.00 each.

1984-15 Aggregate resources maps, NTS 83G: A series of maps covering NTS area 83G at a scale of 1:50 000. \$1.00 each.

1984-16 Aggregate resources maps, NTS 83H: A series of maps covering NTS area 83H at a scale of 1:50 000. \$1.00 each.

1984-17 Aggregate resources maps, NTS 83I: A series of maps covering NTS area 83I at a scale of 1:50 000. \$1.00 each.

1984-18 Aggregate resources maps, NTS 83J: A series of maps covering NTS area 83J at a scale of 1:50 000. \$1.00 each.

1984-19 Aggregate resources maps, NTS 83K: A series of maps covering NTS area 83K at a scale of 1:50 000. \$1.00 each.

1984-20 Aggregate resources maps, NTS 83M: A series of maps covering NTS area 83M at a scale of 1:50 000. \$1.00 each.

1984-21 Surficial geology and overburden characteristics, Landon Lake area. Fenton, M.M., Mougeot, C.; 5 pages. \$1.00

1984-22 Judith River coal, Brooks area, Drilling report, 1983. Bosman, A.; 27 pages, 6 appendixes, 3 figures. \$3.00

1984-24 Stratigraphic sections examined for phosphate in Alberta. MacDonald, D.E.; 445 pages. \$45.00

1984-25 Sand and gravel resources of the Onoway area, Alberta. Edwards, W.A.D.; 71 pages, 1 appendix, 4 figures. \$7.00

1984-26 Real-time laboratory system (RLS): Volume I. User guide. Bechtel, L.; 131 pages. \$13.50

1984-27 Report on the geology and economic potential of lands around the western end of Lake Athabasca, Alberta. Wilson, J.A.; 7 pages, 2 figures. \$1.00

1984-28 Real-time laboratory system (RLS): Volume II. Programmer's guide. Tremain, K.R.; 194 pages, 2 appendixes. \$19.50

1984-29 Alluvial gold project, North Saskatchewan River, Alberta. MacGillivray, J.R., Sham, P.C., Boisvert, D.R.; 37 pages, 2 appendixes, 8 figures, 9 plates, 6 tables, 1 map. \$4.00

1984-30 Soil survey of Rochon Sands Provincial Park and interpretation for recreational use. Greenlee, G.M.; 27 pages, 2 figures, 10 tables, 3 maps. \$6.00

1984-31 Soil survey of Jarvis Bay Provincial Park and interpretation for recreational use. Greenlee, G.M.; 28 pages, 2 figures, 14 tables, 3 maps. \$6.00

1984-32 Soil survey of Writing-on-Stone Provincial Park study area and interpretation for recreational use. Greenlee, G.M.; 33 pages, 2 figures, 9 tables, 3 maps. \$6.50

1984-33 Investigations to locate the source of a crude oil contaminant in a water well near Rocky Mountain House, Alberta. Gabert, G.M.; 40 pages, 5 figures, 5 tables. \$4.00

1984-34 Observations of the 1983 breakup in the Athabasca River Basin upstream of Fort McMurray, Alberta. Andres, D., Rickert, H.A.; 61 pages, 38 figures, 3 tables. \$6.50

1984-36 Ornamental and building stones, Fort Chipewyan, Alberta. Godfrey, J.D.; 26 pages. \$3.00

1984-37	Soil survey of Midland Provincial Park and interpretation for recreational use. Greenlee, G.M.; 52 pages, 2 figures, 13 tables, 3 maps. \$8.50	1985-5	Peak runoff from small rural drainage basins in north-central Alberta. Hudson, H.R., Trevor, B.; 123 pages, 3 appendixes, 22 figures, 7 tables. \$24.60
1984-38	Soil survey of Garner Lake Provincial Park study area and interpretation for recreational use. Greenlee, G.M.; 31 pages, 2 figures, 13 tables, 3 maps. \$6.50	1985-6	Hydraulic erodability of cohesive materials. Andres, D.D.; 219 pages, 2 appendixes, 44 figures, 30 tables. \$43.80
1984-39	Soil classification and characterization at site number DjOn 26 in Cypress Hills Provincial Park, Alberta. Greenlee, G.M.; 13 pages, 1 table. \$1.50	1985-7	Tour of the Highvale open pit coal mine, June 2, 1985, field trip guidebook No. 1. Fenton, M.M., Langenberg, C.W., Jones, C.E., Trudell, M.R., Pawlowicz, J.G.; 55 pages, 27 figures, 1 table. \$10.00
1984-40	Soil survey of Pembina River Provincial Park and interpretation for recreational use. Greenlee, G.M.; 34 pages, 2 figures, 13 tables, 3 maps. \$6.50	1985-8	A note on a graphical method for testing distributional assumptions. Chidambaram, N.; 6 pages, 2 figures, 2 tables. \$1.00
1985-1	Soil survey of Thunder Lake Provincial Park and interpretation for recreational use. Greenlee, G.M.; 31 pages, 2 figures, 16 tables, 3 maps. \$6.50	1985-9	Silica dissolution from oil sands. Boon, J.A.; 78 pages, 1 appendix, 14 figures, 18 plates, 8 tables. \$15.60
1985-2	Delineation of the northern extension of the Rimbey-Meadowbrook reef tract, upper devonian north-eastern Alberta. Ing, A.; 26 pages, 7 figures, 1 appendix. \$3.00	1985-14	Machine stress-rating panel products. Bach, L.; 23 pages, 12 figures, 1 table. \$2.50
1985-3	Soil survey of Gooseberry Lake Provincial Park and interpretation for recreational use. Greenlee, G.M.; 29 pages, 2 figures, 13 tables, 3 maps. \$6.30	1985-15	"SEQ", a DNA analysis program designed for computer novices working in an industrial-research environment. Stone, T.W., Potter, K.N.; 17 pages, 7 figures. \$1.80
1985-4	Silica transport during steam injection into oil sands: 1. Dissolution and precipitation kinetics of quartz -new results and review of existing data. Bird, G., Boon, J.A.; 22 pages, 7 figures, 4 tables, 3 appendixes. \$11.40	1985-16	Methylation blockage and other improvements to a comprehensive DNA analysis program. Stone, T.W., Potter, K.N.; 15 pages. \$1.60

River Engineering and Subsurface Hydrogeology Reports

62-1	Hydraulic tests on pipe culverts. Neill, C.R.; 52 pages, 1 appendix, 17 figures, 12 plates. \$5.50.	72-1	Hydraulic and geomorphic characteristics of rivers in Alberta. Neill, C.R., Kellerhals, R., Bray, D.I.; 52 pages, 24 figures, 10 tables. \$4.50
70-1	Selected characteristics of streamflow in Alberta. Neill, C.R., Bray, D.I., Schouten, M.F., Card, J.R.; 55 pages, 4 appendixes, 28 figures, 18 tables. \$3.00		

Uncategorized Reports

1	First annual report on the mineral resources of Alberta. 1920. Allan, J.A.; 104 pages. \$10.00	6	Saunders Creek and Nordegg coal basins, Alberta. 1922. Allan, J.A., Rutherford, R.L.; 66 pages, 15 plates, 1 map (NTS 83B, 83C, 83F, 83G, scale 1 in to 2 mi). mf \$10.00
2	Second annual report on the mineral resources of Alberta. 1921. Allan, J.A.; 138 pages. mf \$3.00	7	Fourth annual report on the mineral resources of Alberta, 1922. Part II. An occurrence of iron on Lake Athabasca. 1922. Allan, J.A., Cameron, A.E.; 33 pages, 11 plates, 2 maps (scale 1 in to 12 mi and 1 in to 3/4 mi). mf \$4.00
3	First annual report for the calendar year 1920. 36 pages. mf	8	Annual report for the calendar year 1922. 64 pages. mf
4	Geology of the Drumheller coal field. 1921. Allan, J.A.; 72 pages, 1 map (NTS 82P scale 1 in to 2000 ft). mf \$12.50		
5	Second annual report for the calendar year 1921. 86 pages. mf		

9	Geology along the Blackstone, Brazeau and Pembina Rivers in the Foothills belt, Alberta. 1924. Allan, J.A., Rutherford, R.L.; 48 pages, 14 plates, 1 map NTS 83C (scale 1 in to 2 mi). mf \$7.00	26	Annual report for the calendar year 1930. 76 pages. mf
10	Annual report for the calendar year 1923. 76 pages, 1 map of Alberta coal areas (scale 1 in to 30 mi). mf	27	Annual report for the calendar year 1931. 53 pages. mf
10A	Combustion of coal for the generation of power. 1923. Robb, C.A.; 35 pages. \$4.00	28	Annual report for the calendar year 1932. 90 pages. mf
11	Geology of the foothills belt between McLeod and Athabasca Rivers, Alberta. 1925. Rutherford, R.L.; 61 pages, 7 plates, 1 map (NTS 74L scale 1 in to 2 mi). mf \$9.50	29	Annual report for the calendar year 1933. 90 pages. mf
12	Annual report for the calendar year 1924. 66 pages. mf	30	Geology of central Alberta. 1934. Allan, J.A., Rutherford, R.L.; 41 pages, 2 figures, 1 map (scale 1 in to 10 mi). \$7.50
13	Geology of Red Deer and Rosebud sheets. 1925. Allan, J.A., Sanderson, J.O.; 109 pages, 1 map (NTS 82P and 83A scale 1 in to 4 mi). mf \$12.00	31	Preliminary soil survey of the Peace River-High Prairie-Sturgeon Lake area, Alberta. Wyatt, F.A.; 28 pages, 11 figures, 1 map (scale 1 in to 4 mi). No longer available.
14	Analyses of Alberta coals. 1925. Stansfield, E., Hollies, R.T., Campbell, W.P.; 64 pages, 18 figures, 2 charts, mf \$6.50	32	Annual report for the calendar year 1934. 90 pages. mf
15	Geology of the area between Athabasca and Embarras Rivers, Alberta. 1926. Rutherford, R.L.; 29 pages, 3 plates, 1 map (NTS 74L scale 1 in to 2 mi). \$6.00	33	Annual report for the calendar year 1936. 43 pages.
16	Annual report for the calendar year 1925. 65 pages. mf	34 I	Geology: Part I. General geology of Alberta. Allan, J.A.; 37 pages, 1 map (scale 1 in to 32 mi). mf \$3.00 per set
17	Geology along Bow River between Cochrane and Kananaskis, Alberta. 1927. Rutherford, R.L.; 46 pages, 7 plates, 1 map (NTS 82O scale 1 in to 1 mi). mf \$8.50	34 II	Geology: Part II. Rock salt deposit at Waterways. Allan, J.A.; 19 pages. mf \$3.00 per set
18	The bituminous sands of Alberta: Part 1. Occurrence; Part 2. Separation of bitumen from sand; Part 3. Utilization. 1927-1929. Clark, K.A., Blair, S.M.; Part 1: 74 pages, Part 2: 36 pages, Part 3: 33 pages, 3 figures, 7 plates, 39 tables. mf \$3.00	34 III	Geology: Part III. Geology of Alberta soils. Allan, J.A.; 87 pages. mf \$3.00 per set
19	Geology of the area between North Saskatchewan and McLeod Rivers. 1928. Rutherford, R.L.; 37 pages, 1 plate, 1 map (NTS 73E scale 1 in to 3 mi). mf \$3.00	34 IV	Geology: Part IV. Relief model of Alberta and its geological application. Allan, J.A.; 9 pages. mf \$3.00 per set
20	Annual report for the calendar year 1926. 53 pages. mf	34 V	Geology: Part V. Coal areas of Alberta. Allan, J.A.; 36 pages, 1 map (scale 1 in to 20 mi). mf \$3.00 per set
21	Geology and water resources in parts of the Peace River and Grande Prairie districts, Alberta. 1930. Rutherford, R.L.; 80 pages, 7 plates, 1 map (NTS 83M and 84C scale 1 in to 4 mi). mf \$10.00	35	Coals of Alberta: Their occurrence analysis and utilization (in six parts). Parts I to V - Occurrence, classification, production, special tests, general properties, preparation, utilization and combustion. Part VI - Analytical and technical data by coal areas. 1944. Stansfield, E., Lang, W.A.; 174 pages. mf \$19.00
22	Annual report for the calendar year 1927. 48 pages.	36	Rural electrification in Alberta. 1944. Stewart, A.; 107 pages, 2 appendixes. mf (available only on microfiche), \$3.00
23	Preliminary soil survey of the Peace River area west of Dunvegan, Alberta. 1927. Wyatt, F.A., Younge, O.R.; 33 pages, 13 figures, 1 map (scale 1 in to 4 mi) available from the Faculty of Extension, University of Alberta. \$6.00	44	Annual report for the calendar year 1943. 14 pages.
24	Annual report for the calendar year 1928. 53 pages.	45	Annual report for the calendar year 1944. 18 pages.
25	Annual report for the calendar year 1929. 65 pages.	46	Alberta coals and automatic domestic stokers. 1945. Stansfield, E., Genge, C.A.; 40 pages, 5 appendixes, 8 figures, 1 table. \$3.00
		47	Annual report for the calendar year 1945. 21 pages.
		48	Geology and coal occurrences of Wapiti-Cutbank area, Alberta. 1946. Allan, J.A., Carr, J.L.; 43 pages, 10 figures, 2 plates, 4 tables, 1 map (NTS 83L, 83M scale 1 in to 3 mi). \$3.00

49	Geology of Highwood-Elbow area, Alberta. 1947. Allan, J.A., Carr, J.L.; 75 pages, 20 figures, 2 tables, 1 map (NTS 82J scale 1 in to 1 mi). \$3.00	70	Foraminifera of the Cenomanian Dunveganoceras zone from Peace River area of western Canada. 1955. Stelck, C.R., Wall, J.H., Warren, P.S.; Appendix: New Cenomanian Ammonites from Alberta, 81 pages, 6 figures, 9 plates. \$3.00
50	Annual report for the calendar year 1946. 28 pages.	71	Bentonite in Alberta. 1955. Byrne, P.J.S.; 20 pages, 1 appendix. mf, available only on microfiche. \$3.00
51	Annual report for the calendar year 1947. 28 pages.	72	Geology of the McMurray Formation: Part I. Foraminifera of the Upper McMurray and basal Clearwater Formations. Part II. Heavy minerals of the McMurray Formation. 1956. Mellon, G.B., Wall, J.H.; 43 pages, 4 figures, 4 plates, 1 table. mf \$5.50
52	Geology of Ribbon Creek area, Alberta. 1949. Crockford, M.B.; 64 pages, 13 figures, 1 table, 1 map (NTS 82J, 83O scale 1 in to 1 mi). \$7.00	73	Annual report for the calendar year 1955. 52 pages.
53	The role of very fine mineral matter in the hot water separation process as applied to the Athabasca bituminous sand. 1949. Clark, K.A., Pasternack, D.S.; 22 pages, 3 figures. \$3.00	74	Reconnaissance soil survey of the Grande Prairie and Sturgeon Lake sheets. Odynsky, W., Wynnyk, A., Newton, J.D.; 111 pages, 13 tables, 35 figures, 2 maps (scale 1 in to 4 mi and 1 in to 3 mi) available from the Faculty of Extension, University of Alberta.
54	Annual report for the calendar year 1948. 27 pages.	75	Middle Albian Foraminifera from Athabasca and Peace River drainage areas of western Canada. 1956. Stelck, C.R., Wall, J.H., Bahan, W.G., Martin, L.J.; 60 pages, 2 figures, 5 plates. \$3.00
55	Annual report for the calendar year 1949. 26 pages.	76	Annual report for the calendar year 1956. 48 pages.
56	Soil survey of Rycroft and Watino sheets. Odynsky, W.; 84 pages, 2 figures. No longer available.	77	Annual report for the calendar year 1957. 56 pages.
57	Determination of viscosities and specific gravities of the oils in samples of Athabasca bituminous sands. 1950. Ward, S.H., Clark, K.A.; 22 pages, 10 figures. \$3.00	78	Annual report for the calendar year 1958. 66 pages.
58	The components of the bitumen in the Athabasca bituminous sand and their significance in the hot water separation process. 1951. Pasternack, D.S., Clark, K.A.; 14 pages, 10 figures. \$3.00	79	Annual report for the calendar year 1959. 54 pages.
59	Geology of the Carbondale River area, Alberta. 1951. Clow, W.H., Crockford, M.B.; 70 pages, 16 figures, 1 table, 1 map (NTS 82G scale 1 in to 1 mi). \$3.00	80	Annual report for the calendar year 1960. 55 pages.
60	Annual report for the calendar year 1950. 39 pages.	81	Soil survey of the Beaverlodge and Blueberry Mountain sheets. Odynsky, W., Reeder, S.W., Wynnyk, A.; 123 pages, 3 appendixes, 13 tables, 38 figures, 2 maps (scale 1 in to 4 mi and 1 in to 3 mi), available from the Faculty of Extension, University of Alberta.
61	Clay deposits of Elkwater Lake area of Alberta. 1951. Crockford, M.B.; 102 pages, 1 appendix, 52 tables, 1 map (NTS 72E scale 1 in to 1 mi). \$3.00	82	Annual report for the calendar year 1961. 60 pages.
62	Annual report for the calendar year 1951. 31 pages.	83	Annual report for the calendar year 1962. 74 pages.
63	Reconnaissance soil survey of the High Prairie and McLennan sheets. 1951. Odynsky, W., Wynnyk, A., Newton, J.D.; 112 pages, 2 maps (scale 1 in to 4 mi and 1 in to 3 mi), available from the Faculty of Extension, University of Alberta.	84	Annual report for the calendar year 1963. 71 pages.
64	Annual report for the calendar year 1952. 36 pages.	85	Reconnaissance soil survey of the Cherry Point and Hines Creek area. Reeder, S.W., Odynsky, W.; 102 pages, 4 appendixes, 19 tables, 26 figures, 2 maps (scale 1 in to 4 mi and 1 in to 3 mi) available from the Faculty of Extension, University of Alberta.
66	Annual report for the calendar year 1953. 41 pages.	86	Annual report for the calendar year 1964. 75 pages.
67	Glacial geology, St. Ann area, Alberta. 1955. Collins, G.A., Swan, A.G.; 18 pages, 6 figures, 3 tables, 1 map (NTS 83G scale 1 in to 4 mi). mf \$3.50		
68	Kaskapau Foraminifera from Peace River area of western Canada. 1954. Stelck, C.R., Wall, J.H.; 38 pages, 5 figures, 2 plates. mf \$3.00		
69	Annual report for the calendar year 1954. 47 pages. mf		

Information Series

1	The significance of general laboratory tests on fuels and lubricants. 1947. Charlesworth, J.S.; 11 pages. mf \$3.00	19	Alberta motor gasoline surveys. 1954. Charlesworth, J.S., Rymer, G.M., Tipman, E., Webster, J.; 18 pages, 1 appendix, 9 tables. \$3.00
2	Alberta motor gasoline surveys, 1939-1947. 1947. Charlesworth, J.S., Tipman, E.; 11 pages. mf \$2.00	20	An investigation of the permeable tube process for manufacturing carbon black from natural gas. 1956. Quon, D., Schmidt, W.K., Govier, G.W., 35 pages, 2 appendixes, 7 figures. \$3.00
3	Preliminary report on the ceramic importance of clay and shale deposits of Alberta. 1947. Crockford, M.B.; 20 pages. mf \$2.00	21	Alberta motor gasoline survey. 1956. Charlesworth, J.S., Lowe, B., Stott, G., Tipman, E.; 8 pages, 9 tables. mf \$3.00
4	Alberta motor gasoline surveys. 1948. Charlesworth, J.S., Tipman, E.; 14 pages, 10 tables. mf \$2.00	22	Bulk densities, porosities, and liquid saturations of good grade Athabasca oil sands. 1957. Clark, K.A.; 22 pages, 9 tables. \$3.00
5	Poplar market survey. 1948. Stewart, A., Brown, A.R., Armstrong, D.E.; 25 pages, 7 tables. mf \$3.00	23	Papers presented at Symposium: The occurrence and chemical utilization of light hydrocarbons, during the Third Western Regional Conference, Chemical Institute of Canada, University of Alberta. 1956. Govier, G.W., Buckler, E.J., Williams, H.L., Brown, E.C., Dunnington, W., Quon, D., Gregory, J.; 84 pages, 4 tables. \$3.00
6	Occurrences of common salt in Alberta. 1949. Crockford, M.B.; 17 pages, 2 tables. mf \$2.00	24	Proceedings, Ninth Annual Dominion-Provincial Coal Research Conference. 1957. 124 pages, 3 figures. mf \$3.00
7	Geology of the Peace River glass sand deposit. 1949. Crockford, M.B.; 20 pages, 4 figures, 6 tables. mf \$2.00	25	Acoustical design and testing of the Alberta Jubilee Auditoria. 1958. Rossman, W.E., Fayers, M.F., Steinbrecher, A.B.; 96 pages, 5 appendixes, 22 figures, 5 diagrams. \$3.00
8	Alberta motor gasoline surveys. 1949. Charlesworth, J.S., Tipman, E.; 13 pages, 10 tables. mf \$2.00	26	An investigation of the grindability of Alberta sub-bituminous coals. 1958. Jensen, E.J., Fryer, J.F.; 38 pages, 1 appendix, 10 figures, 7 tables. mf \$4.00
9	Alberta motor gasoline surveys. 1950. Charlesworth, J.S., Tipman, E.; 21 pages, 1 appendix, 9 tables. mf \$2.50	27	Alberta motor gasoline survey. 1958. Charlesworth, J.S., Rowbotham, M., Stott, G.; 20 pages, 1 appendix, 10 tables. mf \$2.00
10	Natural gas in relation to the industrial development of Alberta. 1950. 59 pages, 5 figures, 18 tables. mf \$7.00	28	Monthly analyses of Athabasca River water sampled at and near McMurray, Alberta. 1959. Clark, K.A.; 2 pages, 1 table. \$3.00
11	Alberta motor gasoline surveys. 1951. Charlesworth, J.S., Tipman, E.; 18 pages, 1 appendix, 9 tables. \$2.00	29	An analysis of the liquefied petroleum gas industry in Alberta. 1959. Wright, R.W.; 77 pages, 10 figures. \$3.00
12	The chemical utilization of natural gas: Recent developments and their significance to the Province of Alberta. 1952. Quon, D., Govier, G.W.; 61 pages, 3 figures, 7 tables. mf \$6.50	30	Proceedings of symposium on iron and steel in western Canada. 1959. 214 pages, 25 figures, 42 tables. \$3.00
13	Analysis of power costs in the Province of Alberta. 1949. Armstrong, D.E., McClary, R.E.; 106 pages. \$3.00	31	Alberta motor gasoline survey. 1960. Charlesworth, J.S., Rowbotham, M., Stott, G.; 18 pages, 1 appendix, 9 tables. mf \$3.00
14	Alberta motor gasoline surveys. 1952. Charlesworth, J.S., Tipman, E.; 20 pages, 9 appendixes, 31 figures. mf \$2.00	32	Survey of Canadian military aviation fuels, 1958 and 1959. 1963. Charlesworth, J.S., Stott, G., Wall, M., Strigner, P.L., Broughton, J.W.; 18 pages, 14 tables. mf \$2.00
15	The manufacture of carbon black from natural gas: Technical and economic features and the significance to the Province of Alberta. 1953. Wanat, W., Quon, D., Govier, G.W.; 44 pages, 3 figures, 6 tables. mf \$5.00	33	Alberta subbituminous coals as drilling fluid thinners. 1961. Jensen, E.J.; 25 pages, 2 figures, 7 tables. mf \$3.00
16	Alberta motor gasoline surveys. 1953. Charlesworth, J.S., Rymer, G.M., Tipman, E.; 18 pages, 1 appendix, 9 tables. mf \$2.00		
17	Performance of typical Alberta coals in a rotating-grate domestic stoker. 1954. Dunn, J.S., Lang, W.A.; 39 pages, 1 appendix, 7 figures, 2 tables. \$3.00		
18	Preliminary report of geological field work, northeastern Alberta. 1954. Collins, G.A., Swan, A.G.; 8 pages. \$2.00		

34	A low-temperature carbonization assay of Alberta coals. 1961. Davies, G., Moreland, C., Berkowitz, N.; 29 pages, 1 appendix, 10 figures, 6 tables. \$3.00	49	Survey of Canadian military aviation anti-freezes, anti-icing and de-icing fluids and their compounds, 1963 and 1964. 1964. Charlesworth, J.S., Strigner, P.L.; 9 pages, 8 tables (1963), 50 pages and 34 tables (1964). mf, available from National Research Council, Ottawa, Division of Mechanical Engineering, \$2.00
35	Investigations of the automotive uses of liquefied petroleum gases. 1961. Spencer, H.A.; 25 pages, 12 figures, 3 tables. \$3.00	50	A guide to operational and maintenance problems on ASTM-CFR engines. 1964. Charlesworth, J.S., Rose, R.A.; 170 pages, 1 figure, 10 tables. mf \$17.00
36	Survey of Canadian military aviation fuels. 1960. Strigner, P.L., Charlesworth, J.S., Broughton, J.W.; 13 pages, 10 tables. mf \$2.00	51	Alberta motor gasoline survey. 1964. Charlesworth, J.S., Stott, G.; 20 pages, 1 figure, 10 tables. mf \$3.00
37	Pilot plant investigations of low-temperature coal carbonization in a fluidized bed. 1961. Davies, G., Moreland, C.; 59 pages, 4 appendixes, 17 figures, 4 plates. mf \$6.00	52	Note on the use of hail insurance data for the evaluation of hail suppression techniques. 1966. Summers, P.W.; 25 pages, 7 figures, 2 tables. \$3.00
38	An analysis of the sulfur industry in Alberta. 1962. Brese, W.G.; 78 pages, 12 figures, 20 tables. mf \$8.00	53	Survey of Canadian military aviation fuels, oils, anti-freezes, anti-icing fluids and related products. 1964. Strigner, P.L., Charlesworth, J.S.; 50 pages. mf, available from National Research Council, Ottawa, Division of Mechanical Engineering, \$6.00
39	Proceedings of Symposium on Alberta Petrochemical Industry. 1962. 203 pages, 27 tables, 46 figures. mf \$21.00	54	Survey of Canadian military aviation fuels, oil, anti-freezes, anti-icing fluids and related products. 1965. Strigner, P.L., Stott, G.; 42 pages. mf, available from National Research Council, Ottawa, Division of Mechanical Engineering, \$4.50
40	The reduction of Clear Hills iron ore by the R-N process. 1962. Samis, C.S., Gregory, J.; 35 pages, 5 plates, 6 tables. \$3.00	55	Alberta motor gasoline survey. 1966. Charlesworth, J.S., Stott, G.; 22 pages, 9 tables. mf \$3.00
41	Alberta motor gasoline survey. 1962. Charlesworth, J.S., Stott, G., Wall, M.; 20 pages, 2 appendixes, 9 tables. \$3.00	56	A guide to operational and maintenance problems on ASTM-CFR engines, 2nd edition. 1967. Charlesworth, J.S., Rose, R.A.; 186 pages. mf \$19.00
42	Survey of Canadian military aviation fuels. 1961. Strigner, P.L., Charlesworth, J.S.; 18 pages, 15 tables. mf, available from National Research Council, Ottawa, Division of Mechanical Engineering, \$2.00	57	Alberta motor gasoline survey. 1968. Charlesworth, J.S., Stott, G.; 22 pages, 2 figures, 9 tables. \$3.00
43	Survey of Canadian military aviation fuels. 1963. Charlesworth, J.S.; Available from National Research Council, Ottawa, Division of Mechanical Engineering, \$2.00	58	Alberta motor gasoline survey. 1970. Charlesworth, J.S., Stott, G.; 22 pages, 2 figures, 9 tables. \$3.00
44	Survey of Canadian military aviation oils. 1962. Strigner, P.L., Charlesworth, J.S.; 13 pages, 11 tables. mf, available from National Research Council, Ottawa, Division of Mechanical Engineering, \$2.00	59	Recycling of waste paper: A review of the technology and economics as applied to Alberta. 1972. Gishler, P.E.; 31 pages, 2 figures, 14 tables. \$3.00
45	The K.A. Clark Volume; comprising 17 papers presented at the second Athabasca Oil Sands Conference. 1963, reprinted 1974. 241 pages, 78 figures, 6 plates, 43 tables. \$5.00	60	Proceedings, First Geological Conference on western Canadian Coal. 1972. Mellon, G.B., Kramers, J.W., Seagel, E.J.; 211 pages, 132 figures, 30 plates, 29 tables. \$7.00
46	Survey of Canadian military aviation oils, 1962. 1965. Charlesworth, J.S., Strigner, P.L.; 18 pages, 16 tables. Available from National Research Council, Ottawa, Division of Mechanical Engineering, \$2.00	61	A supplementary guide to operational and maintenance problems on ASTM-CFR engines. 1972. Rose, R.A.; 59 pages. \$3.00
47	Survey of Canadian military aviation fuels. 1963. Charlesworth, J.S., Strigner, P.L.; 23 pages, 18 tables. mf, available from National Research Council, Ottawa, Division of Mechanical Engineering, \$3.00	62	Alberta motor gasoline survey. 1972. Charlesworth, J.S., Stott, G., Wasel, R.; 22 pages. mf \$3.00
48	Survey of Canadian military aviation oils. 1963. Strigner, P.L., Charlesworth, J.S.; 15 pages, 12 tables. mf, available from National Research Council, Ottawa, Division of Mechanical Engineering, \$2.00	63 (1)	TDA-RCA capsule pipeline project, phase 1 report, parts 1 and 2. 1973. Jensen, E.J.; part 1, 84 pages, 23 figures, 4 tables; part 2, 329 pages. \$5.00
		63 (2)	TDA-RCA capsule pipeline project, phase 2 report. 1974. Jensen, E.J.; 126 pages, 61 figures, 5 tables. \$5.00

63 (3) TDA-RCA capsule pipeline project, phase 3 report, parts 1 and 2. 1975. Jensen, E.J.; part 1, 267 pages, 139 figures, 6 tables; part 2, 16 pages, 45 figures, 2 tables. \$5.00

64 Coal gasification: A state-of-the-art review. 1973, reprinted 1975. Berkowitz, N.; 53 pages, 22 figures, 3 tables. \$5.00

65 Guide to the Athabasca oil sands area, Alberta. 1973. Carrigy, M.A., Kramers, J.W.; prepared for the Canadian Society of Petroleum Geologists Oil Sands Symposium, 213 pages, 35 figures, 35 plates, 15 tables. \$5.00

66 Storage of coal samples. 1973. Fryer, J.F., Szladow, A.J.; 7 pages, 2 figures. \$3.00

67 TDA-RCA capsule pipeline project, capsule pipeline system analysis, parts 1 and 2. 1974. Jensen, E.J.; part 1, 121 pages, 3 appendixes, 25 figures; part 2, 75 pages, 3 appendixes. \$5.00

68 Alberta motor gasoline survey. 1974. Stott, G., Wasel, R., Charlesworth, J.S.; 21 pages. \$3.00

69 Groundwater observation well network: Athabasca oil sands area. 1975. Hackbarth, D.A.; 22 volumes, \$10.00 per volume: Site 1. 8-15-96-11 W4th, Site 2. 1-11-97-12 W4th, Site 3. 9-26-97-13 W4th, Site 6. 2-18-95-9 W4th, Site 7. 13-20-95-8 W4th, Site 8. 5-30-94-7 W4th, Site 9. 16-4-94-6 W4th, 1976 Update for preceding sites, Site 10. 9-24-85-9 W4th, Site 11. 16-2-87-9 W4th, Site 12. 8-27-88-9 W4th, Site 13. 8-11-90-12 W4th, Site 14. 4-15-92-12 W4th, Site 15. 15-33-89-16 W4th, Site 16. 6-13-90-10 W4th, Site 17. 13-12-94-11 W4th, Sites 18 and 19 (1 volume), Industry Sites (various locations). 1978 Update to Site 17, 1979 Update for all above sites, 1980 Update for all above sites, 1982 Update for all above sites.

70 Wind power in Alberta. 1976. Rachuk, T.W., Hawrelak, J., Barlisen, J.; 79 pages, 25 figures, 6 tables. \$3.00

71 Athabasca oil sands index selected abstracts: Volume 1, Bitumen recovery. 1973. Fryer, J.F., Speight, J.G.; 63 pages. \$5.00

72 Athabasca oil sands index selected abstracts: Volume 2, Bitumen processing, properties, and utilization. 1973. Fryer, J.F., Speight, J.G., 44 pages. \$5.00

73 Analytical data on gas condensates in Alberta. 1975. Gawlak, M.; 15 pages, 5 tables. \$3.00

74 (1) Coal gasification - selected abstracts and titles: Volume 1, Gasification of unmined coal. 1975. Fryer, J.F., Speight, J.G.; 6 parts. \$130.00 for complete set, \$25.00 ea.

74 (2) Coal gasification - selected abstracts and titles: Volume 2, Gasification of mined coal. Part 1. General processing, 1905-1030. Part 2. General processing, 1931-1950. Part 3. General processing, 1951-1970. Part 4. Equipment modification. 1975. Fryer, J.F., Speight, J.G.; 6 parts. \$130.00 for complete set, \$25.00 ea.

74 (3) Coal gasification - selected abstracts and titles: Volume 3, Gasification of peat, lignite, and similar carbonaceous materials. 1975. Fryer, J.F., Speight, J.G.; 6 parts. \$130.00 for complete set, \$25.00 ea.

75 Peace River iron deposits. 1975. Bertram, E.F., Mellon, G.B.; 53 pages, 1 appendix, 4 figures, 8 plates, 7 tables. mf \$6.00

76 Symposium on coal evaluation. 1974. Fryer, J.F., Campbell, J.D., Speight, J.G.; 182 pages, 78 figures, 3 plates, 24 tables. \$7.00

77 Alberta motor gasoline survey. 1976. Stott, G., Wasel, R., Charlesworth, J.S.; 17 pages, 3 appendixes, 2 figures, 10 tables. \$3.00

79 A tabulation and analysis of solar radiation data for Alberta. 1977. Hay, J.E.; 124 pages, 7 appendixes, 90 figures, 6 tables. \$3.00

80 A guide to operational and maintenance problems on ASTM-CFR engines. 1978. Rose, R.A., Stott, G.; 187 pages. \$5.00

81 The structure of petroleum asphaltenes: current concepts. 1978. Speight, J.G.; 27 pages, 14 figures, 5 tables. \$3.00

83 SWERP (Solar and Wind Energy Research Program) index, including the author listing, KWOC (key-word-out-of-context) index and a numerical index; updated semi-annually, available by writing to SWERP, 5th Floor, Terrace Plaza, Edmonton, Alberta. Tel: 438-1666

84 Studies on bitumen fractionation: A. Fractionation by a cryoscopic method; B. Effect of solvent type on asphaltene solubility. 1979. Speight, J.G.; 11 pages, 1 figure, 3 tables. \$3.00

85 Symposium on coal refining, Edmonton, Alberta. 1978. Berkowitz, N., Brown, R.A.S., Fryer, J.F., Speight, J.G.; 493 pages, 154 figures, 8 plates, 22 tables (MML 79-5283). \$5.00

86 Surface and interfacial phenomena related to the hot water processing of Athabasca oil sands. 1980. Speight, J.G., Moschopedis, S.E.; 14 pages, 4 figures, 11 tables. \$3.00

87 Alberta motor gasoline survey. 1978. Stott, G., Wasel, R., Rebus, B.; 21 pages, 3 appendixes, 3 figures, 10 tables, (MML 79-1831). \$3.00

88 Coal-abstracts index, 3 volumes. Speight, J.G., Montgomery, T.M. Superceded by Information Series 100, available from the Coal Technology Information Centre, Devon, Alberta. Tel: 987-8111.

89 Studies on coal liquefaction catalysis. 1980. Parkash, S.; 25 pages, 6 figures, 13 tables. \$3.00

90 Alberta motor gasoline survey. 1979. Stott, G., Wasel, R.; 22 pages, 3 appendixes, 3 figures, 12 tables. \$3.00

91 International system (SI) of units of hydrogeology. 1980. Ceroici, W.J.; 13 pages, 2 appendixes, 2 tables. \$3.00

94	Fractionation of oil sands bitumen and coal-derived liquids. 1981. Moschopedis, S.E., Hawkins, R.W.; 10 pages, 8 figures, 6 tables. \$3.00	100	COAL-ABS Index, Fourth Edition 9 volumes, sold only as a set; also available on-line on SPIRES through the University of Alberta. \$160.00
95	Modern coal pyrolysis: a state-of-the-art review. 1982. Chakrabarty, S.K., du Plessis, M.P.; 46 pages, 16 figures, 23 tables. \$3.00	101	Alberta plains coal regions: Potential feedstock for coal conversion by liquefaction and pyrolysis. 1983. Campbell, J.D., du Plessis, M.P.; 21 pages, 1 appendix, 1 figure, 2 tables. \$4.00
97	Alberta motor gasoline survey. 1980. Stott, G., Wasel, R.; 24 pages, 3 appendixes, 12 tables, 4 figures. \$3.00	102	Application of coal petrography in the liquefaction of subbituminous coals and lignites. 1983. Parkash, S., du Plessis, M.P., Cameron, A.R.; 30 pages, 17 tables, 28 figures, 5 plates. \$4.00
98	Marketable mineral waters of Alberta. 1982. Wallick, E.I., Balakrishna, T.; 13 pages, 7 tables, 4 figures. \$3.00		
99	Pyrolytic properties of Alberta coals. 1981. Chakrabarty, S.K., Fryer, J.F., Campbell, J.D.; 11 pages, 6 tables, 3 figures. \$3.00		

Contribution Series

1	Fuel investigations of the Research Council of Alberta (1919-1940). Lang, W.A.; Canadian Mining and Metallurgical Bulletin, Transaction 45, 1-8, 1942.	12	Elimination of water from wet crude oil obtained from bituminous sand by the hot water washing process. Part 1. Continuous settling at atmospheric pressure. Part 2. Continuous settling under pressure, evaporation. Clark, K.A., Pasternack, D.S.; Part 1. Canadian Chemistry and Process Industries 31, 1007-1011. Part 2. Canadian Chemistry and Process Industries 32, 32-36, 1948.
2	Humidity data expressed in grains water vapour per pound of dry air. Stansfield, E.; Canadian Journal of Research, A, 21, 55-123, 1943.	13	The oil sand separation plant at Bitumount. Clark, K.A.; Western Miner and Oil Review, 21(8), 131-134, 1948.
3	Alternative fuels for motor vehicles. Lang, W.A.; Engineering Journal 26, 449-454, 1943.	14	The fuel reserves of Alberta. Lang, W.A.; Canadian Mining and Metallurgical Bulletin, Transaction 52, 17-24, 1949.
4	Hot water separation of Alberta bituminous sand. Clark, K.A.; Canadian Mining and Metallurgical Bulletin, Transaction 47, 257-274, 1944.	15	Geology of the Kootenay coal measures in southwestern Alberta. Crockford, M.B.; Canadian Mining and Metallurgical Bulletin, Transaction 52, 122-128, 1949.
5	Some physical properties of Alberta bituminous sand. Clark, K.A.; Canadian Journal of Research, F, 22, 174-180, 1944.	16	Oldman and Foremost formations of southern Alberta. Crockford, M.B.; American Association of Petroleum Geologists, Bulletin 33(4), 500-510, 1949.
6	Purification of silica sand - Alberta tar sands suitable for glass manufacturing. Lilge, E.O.; Canadian Chemistry and Process Industries 29, 480-482, 1945.	17	The Athabasca tar sands. Clark, K.A.; Scientific American 181(5), 52-55, 1949.
7	Bituminous sands of Alberta. Clark, K.A.; The Oil Weekly 121(11), 46-51, 1945.	18	Low temperature carbonization of Alberta subbituminous coal. Gregory, J., McCulloch, A.; Industrial and Engineering Chemistry 41, 1003-1011, 1949.
8	Asphaltic road oils from Alberta bituminous sand. Clark, K.A.; Canadian Chemistry and Process Industries 29, 616-617, 1945.	19	Graphical studies of the properties of Alberta coals. McCulloch, A., Sherlock, E.; Fuel 28(6), 135-141, 1949.
9	Research and the coal industry in Canada. Lang, W.A.; Canadian Mining and Metallurgical Bulletin, Transaction 49, 51-62, 1946.	20	Classification of Alberta coals. Sherlock, E.; Fuel 28(12), 276-281, 1949.
10	Recent work of the Research Council of Alberta. Stansfield, E.; Canadian Mining and Metallurgical Bulletin, Transaction 39, 121-128, 1946.	21	Fuel investigations at the Research Council of Alberta. Land, W.A.; Chemistry in Canada 2(3), 31-32, 1950.
11	Some recent conceptions of coal structure. McCulloch, A.; Canadian Chemistry and Process Industries 31, 6 pages, 1947.		

22 The briquetting of Alberta coals. Lang, W.A.; Canadian Mining and Metallurgical Bulletin, Transaction 53, 289-294, 1950.

23 The hot water washing method for the recovery of oil from the Alberta tar sands. Clark, K.A.; Canadian Oil and Gas Industries 3(9), 46-49, 1950.

24 Athabasca bituminous sands. Clark, K.A.; Fuel 30, 49-53, 1951.

25 Progress in coal technology: Carbonization. Lang, W.A.; Canadian Mining and Metallurgical Bulletin, Transaction 54, 289-294, 1951.

26 Commercial development feasible for Alberta's bituminous sands. Clark, K.A.; Canadian Oil and Gas Industries 4(10), 25-29, 1951.

27 Thermal power for Alberta. Harle, J.A.; Canadian Mining and Metallurgical Bulletin, Transaction 54, 447-451, 1951.

28 Laboratory tests of the cleaning of fine coal by a D.S.M. cyclone. Morimoto, T.E.; Canadian Mining and Metallurgical Bulletin, Transaction 50, 40-48, 1952.

29 Hydraulic transportation of oil sand tailings in small diameter pipes. Clark, K.A., Bruce, W.R., Hodgson, G.W.; Canadian Mining and Metallurgical Bulletin, Transaction 50, 422-426, 1952.

30 Alberta oil sands. Pasternack, D.S.; Reprint, The Petroleum Engineer 25(2), 5 pages, 1953.

31 Oil from Alberta bitumen - simultaneous dehydration and coking using fluidized solids. Hodgson, G.W., Matchen, B., Peterson, W.S., Gishler, P.E.; Industrial and Engineering Chemistry 44(6), 1492-1496, 1952.

32 Industrial minerals in Alberta. Collings, G.A., Gregory, J.; Precambrian 26(2), 27-30, 39, 1953.

33 Towards a carbochemical industry. Berkowitz, N.; Canadian Mining and Metallurgical Bulletin, Transaction 56, 263-270, 1953.

34 Trace metals in the McMurray oil sands and other Cretaceous reservoirs of Alberta. Scott, J., Collins, G.A., Hodgson, G.W.; Canadian Mining and Metallurgical Bulletin, Transaction 57, 34-40, 1954.

35 Fundamental aspects of coal briquetting. Berkowitz, N.; Proceedings, 3rd Biennial Briquetting Conference, Banff, 1953, 1-24. (Published by the National Resources Research Institute, University of Wyoming).

36 On the production of coke from brown coal briquets (in German). Berkowitz, N.; Brennstoff-Chemie 34(21), 289-294.

37 Progress in coal technology: gasification and chemical utilization. Lang, W.A.; Canadian Mining and Metallurgical Bulletin, Transaction 55, 118-122, 1942.

38 Whiteware raw materials from Saskatchewan. Crawford, G.S.; American Ceramic Society, Bulletin 33(2), 49-59, 1954.

39 The vapor phase partial oxidation of n-butane - effect of pressure, reaction time, and inlet gas composition. Quon, D., DallaLana, I.G., Govier, G.W.; Canadian Journal of Chemistry 32, 880-895, 1954.

40 Differential thermal analysis. Collins, G.A., Swan, A.G.; Canadian Mining and Metallurgical Bulletin, Transaction 57, 331-336, 1954.

41 Tar sands. Clark, K.A.; Encyclopedia of Chemical Technology 13, 633-645, 1954.

42 Vanadium, nickel and iron trace metals in crude oils of Western Canada. Hodgson, G.W.; American Association of Petroleum Geologists, Bulletin 38(12), 2537-2554, 1954.

43 Physicochemical studies on Alberta coals (I). Berkowitz, N.; Canadian Journal of Technology 33, 169-181. not available

44 Physicochemical studies on Alberta coals (II). Berkowitz, N.; Canadian Journal of Technology 33, 378-387. not available

45 Pyrolysis of coal in the presence of nitric oxide. Berkowitz, N., Dammeyer, W.; Fuel 35(1), 19-30. not available

46 Coking of self-bonded lignite briquettes - a laboratory study. Berkowitz, N.; Proceedings, 4th Biennial Briquetting Conference, Estes Park, 24-32, 1955.

47 Polarography of the mono- and dioximes of benzoquinone, naphthoquinone, and anthraquinone. Elofson, R.M., Atkinson, J.G.; Canadian Journal of Chemistry 34, 4-13, 1956.

48 Some observations on montmorillonite-organic complexes. Byrne, P.J.S.; Proceedings, 2nd Annual Conference on Clays and Clay Materials, 241-253, 1955.

49 Asphalt characteristics and briquette quality. Lang, W.A.; Proceedings, 4th Biennial Briquetting Conference, Estes Park, 2-10, 1955.

50 Sedimentation in emulsions of water in petroleum. Tipman, E., Hodgson, G.W.; Journal of Petroleum Technology, Technical Note 366, 91-93, 1956.

51 The use of indicators in the determination of ice movement directions in Alberta. Gravenor, C.P., Bayrock, L.A.; Bulletin of the Geological Society of America 66, 1325-1328, 1955.

52 Use of indicators in the determination of ice movement directions in Alberta, Canada, a reply. Gravenor, C.P., Bayrock, L.A.; Bulletin of the Geological Society of America 67, 1105-1110, 1956.

53 Polarographic behavior of the viologen indicators. Elofson, R.M., Edsberg, R.L.; Canadian Journal of Chemistry 35, 646-650, 1957.

54 Vanadium, nickel and porphyrins in thermal geochemistry of petroleum. Hodgson, G.W., Baker, B.L.; American Association of Petroleum Geologists, Bulletin 41(11), 2413-2426, 1957.

55 On the differential thermal analysis of coal. Berkowitz, N.; Fuel 36(3), 355-373, 1957.

56 Observations on some alkyl substituted anthracenes and anthraquinones. Elofson, R.M., Crawford, R.J., Levine, S., Sandin, R.B.; Journal of the American Chemical Society 79, 3153-3156, 1957.

57 The infrared spectra of humic acids and related materials. Elofson, R.M.; Canadian Journal of Chemistry 35, 926-931, 1957.

58 The infrared spectra of fulvenes. Wood, J.C., Elofson, R.M., Saunders, D.M.; Analytical Chemistry 30, 1339-1342, 1958.

59 Hailstorm research in Alberta. Grace, N.H.; Agricultural Institute Review 55, 11-14, 1957.

60 The infrared spectra of coal and some derivatives. Berkowitz, N., denHertog, W.; Fuel 37(3), 253-271, 1958.

61 Exploratory soil survey by helicopter. Lindsay, J.D., Odynsky, W.; Agricultural Institute Review 54, 11-13, 1956.

62 U-shaped dunes and effective wind directions in Alberta. Odynsky, W.; Canadian Journal of Soil Science 38(1), 56-62, 1958.

63 Reproductive potential and sex ratios of snowshoe hares in northern Alberta. Keith, L.B., Rowan, W.; Canadian Journal of Zoology 34, 273-281, 1956.

64 Coal—today and tomorrow. Grace, N.H.; Western Miner and Oil Review 30(10), 53-64, 1957.

65 Evidence of orientation and homing in snowshoe hares. Keith, L.B., Waring, J.D.; Canadian Journal of Zoology 34, 579-581, 1956.

66 The kinetics of the thermal decomposition of ethyl bromide and ethyl bromide-d5. Blades A.T.; Canadian Journal of Chemistry 36(7), 1043-1048, 1958.

67 The mechanism of the pyrolysis of primary alkyl bromides. Blades, A.T.; Canadian Journal of Chemistry 36(7), 1129-1131, 1958.

68 Formation of chloroform soluble material in coking coal. Berkowitz, N., denHertog, W.; Fuel 37(3), 358-360, 1958.

69 Athabasca oil sands: A historical review and summary of technical data. Clark, K.A.; Edmonton Geological Society Quarterly 1(1), 3-5 and (2), 1-6, 1957.

70 The polarographic reduction of diazotized aromatic amines. Elofson, R.M.; Canadian Journal of Chemistry 36(8), 1207-1210, 1958.

71 The kinetics of molecular sieve action, sorption of nitrogen-methane mixtures by Linde molecular sieve 4A. Habgood, H.W.; Canadian Journal of Chemistry 36(10), 1384-1397, 1958.

72 Public lands open for settlement in the Peace River District, Alberta. Odynsky, W., Wood, V.A.; Department of Lands and Forests and Research Council of Alberta, Third Edition, 34 pages, 1957.

73 The effect of the less viscous liquids in laminar flow of two immiscible liquids. Charles, M.E., Russell, T.W.F.; Canadian Journal of Chemical Engineering 37, 18-24, 1959.

74 A note on the electrical conductance of dielectric fluids in ultrasonic fields. Berkowitz, N.; Canadian Journal of Chemistry 37, 13-19, 1959.

75 Preliminary report of a study of the regional variations in the composition of crude oils, natural gases, and formation waters in selected ancient basins of Western Canada. Hitchon, B.; Oil in Canada 10, 22-28, 1958.

76 A self-recording soil penetrometer. Mathieu, A.L., Toogood, J.A.; Canadian Journal of Soil Science, 100-102, 1958.

77 Decomposition and diffusion processes in coal pyrolysis. Berkowitz, N.; Paper 38, Proceedings, International Symposium on the nature of coal, Central Fuel Research Institute, Jealgora, India, 284-291, 1959.

78 Utilization of Alberta's subbituminous coal. Lang, W.A.; Canadian Mining and Metallurgical Bulletin, Transaction 61, 307-313, 1958.

79 Horizontal pipeline flow of mixtures of oil and water. Russell, T.W.F., Hodgson, G.W., Govier, G.W.; Canadian Journal of Chemical Engineering 37, 9-17, 1959.

80 Geochemical aspect of petroleum migration in the Pembina, Redwater, Joffre, and Lloydminster oilfields of Alberta and Saskatchewan. Hodgson, G.W., Baker, B.L.; Bulletin of the American Association of Petroleum Geologists 43(2), 311-328, 1959.

81 Magnesium in crude oils of Western Canada. Hodgson, G.W., Baker, B.L.; American Association of Petroleum Geologists, Bulletin 43(2), 472-476, 1959.

82 Glacial flutings in central and northern Alberta. Gravenor, C.P., Meneley, W.A.; American Journal of Science 256, 715-728, 1958.

83 Low temperature fluidized carbonization in relation to energy production. Moreland, C.; Canadian Mining and Metallurgical Bulletin 51, 415-419, 1951.

84 The Coal Pak and its application to Alberta coals. Melnyk, N., Lang, W.A.; Proceedings, 10th Dominion-Provincial Coal Research Conference, 1-18, 1958.

85 General report B2: Production of oil and gaseous fuels. Berkowitz, N., Govier, G.W.; Proceedings, Canadian Section Meeting, World Power Conference, Montreal, 1958.

86 Patterns of hailstorms in Alberta, 1957. Hitschfeld, W., Douglas, R.H.; Proceedings, 7th Weather Radar Conference, Miami Beach, November 1958. K6 to K13. 102 Permeabilities of the Athabasca oil sands. Clark, K.A.; Canadian Mining and Metallurgical Bulletin 53, 239-244, 1960.

87 Fossil pollen and spores of the Cretaceous-Tertiary boundary in Alberta. Campbell, J.D.; Proceedings, Third Conference on Origin and Constitution of Coal, Crystal Cliffs, Nova Scotia, 1956. 103 Pipeline transportation of solids. Moreland, C.; 11th Dominion-Provincial Coal Research Conference, Saskatoon, Sept. 1959, 1-120.

88 Brazeau Collieries Limited, Nordegg, Alberta. Green, R.; Alberta Society Petroleum Geologists, 8th Annual Field Conference. Guidebook, 5-9, 1958. 104 Petroleum pigments from recent fresh water sediments. Hodgson, G.W., Hitchon, B., Elofson, R.M., Baker, B.L., Peake, E.; *Geochimica et Cosmochimica Acta*, 19, 272-288, 1960.

89 Precambrian Shield structures north of Lake Athabasca. Godfrey, J.D.; Canadian Mining Journal, January 1-4, 1959. 105 The nature of coking coals and the mechanism of coke formation. Berkowitz, N.; Proceedings, Blast Furnace, Coke Oven and Raw Materials Conference, Chicago, April 1960, American Society of Mining and Metallurgical and Petroleum Engineers 19, 95-112.

90 Significance of a grain size classification of the sands of the McMurray formation, Alberta. Carrigy, M.A.; Proceedings, 5th World Petroleum Congress, New York, Section 1, 575-590, 1959. 106 Retention temperatures and column efficiency in programmed temperature gas chromatography. Habgood, H.W., Harris, W.E.; *Analytical Chemistry* 32, 450-453, 1960.

91 Monthly weights of snowshoe hares from north-central Alberta. Rowan, W., Keith, L.B.; *Journal of Mammalogy* 4(2), 221-226, 1959. 107 The nature of the specificity of absorption of alkyl orange dyes on silica gel. Morrison, J.L., Worsley, M., Shaw, D.R., Hodgson, G.W.; *Canadian Journal of Chemistry* 37, 1986-1995, 1959.

92 Gas chromatographic study of the adsorptive properties of a series of activated charcoals. Habgood, H.W., Hanlan, J.F.; *Canadian Journal of Chemistry* 37, 843-855, 1959. 108 Some sex and age ratios among Hungarian partridges and sharp-tailed grouse. Keith, L.B.; Transactional Organizational Meeting, Canadian Society of Wildlife and Fish Biologists, Ottawa, 1-14, 1958.

93 Tar sands. Hodgson, G.W.; *Petroleum Refiner* 38(1), 199-200, 1959. 109 The electrochemical reduction of Michler's ketone. Elofson, R.M.; *Journal of Organic Chemistry* 25, 305-308, 1960.

94 Primary degradation of chlorophyll under simulated petroleum source rock sedimentation conditions. Hodgson, G.W., Hitchon, B.; *American Association of Petroleum Geologists, Bulletin* 43(10), 2481-2492, 1959. 110 A gas chromatographic study of the catalytic isomerization of cyclopropane. Bassett, D.W., Habgood, H.W.; *Journal of Physical Chemistry* 64, 769-773, 1960.

95 Heavy minerals of the Athabasca sandstone. Gravenor, C.P.; *Journal of the Alberta Society of Petroleum Geologists*, 7(1), 1-9, 1959. 111 The shear strength of McMurray oil sands. Round, G.F.; Canadian Mining and Metallurgical Bulletin 53, 239-244, 1960.

96 Geological research in U.S.S.R. Gravenor, C.P., Bayrock, L.A.; *Journal of the Alberta Society of Petroleum Geologists* 6, 226-229, 1958. 112 Regional variations in the properties of formation fluids in Alberta. Hitchon, B., Shaw, D.R.; *Oil Fields of Alberta*, Alberta Society of Petroleum Geologists, 26-37, 1960.

97 Ice disintegration features in Western Canada. Gravenor, C.P., Kupsch, W.O.; *Journal of Geology* 67 (1), 48-64, 1959. 113 Petroleum substitutes from tar sands. Pasternack, D.S.; *Chemical Engineering Progress* 56(4), 72-75, 1960.

98 The infrared spectra of coal and some coal derivatives: a reply. denHertog, W., Berkowitz, N.; *Fuel* 38, 105-119, 1959. 114 The hydrogen effect in the pyrolysis of ethyl-1, 1, 2, 2-d₄ acetate. Blades, A.T., Gilderson, P.W.; *Canadian Journal of Chemistry* 38, 1401-1406, 1960.

99 Patterns of hailstorms in Alberta. Douglas, R.H., Hitschfeld, W.; *Quarterly Journal of the Royal Meteorological Society* 85(364), 105-119, 1959. 115 The secondary hydrogen isotope effects in the pyrolysis of ethyl-d₅ acetate and ethyl acetate-d₃. Blades, A.T., Gilderson, P.W.; *Canadian Journal of Chemistry* 38, 1407-1411, 1960.

100 Mechanisms of coal pyrolysis. I. On the nature and kinetics of devolatilization. Berkowitz, N.; *Fuel* 38, 105-119, 1960. 116 Kinetics of the thermal decomposition of ethyl propionate. Blades, A.T., Gilderson, P.W.; *Canadian Journal of Chemistry* 38, 1412-1415, 1960.

101 Mechanisms of coal pyrolysis. II. Effect of nitric oxide on rates of devolatilization. Berkowitz, N., denHertog, W.; *Fuel* 39(2), 125-131, 1960.

117 Northeast corner of Alberta and adjacent area: Its development and mineral potential. Godfrey, J.D.; Canadian Mining and Metallurgical Bulletin 53, 250-259, Transaction 63, 162-171, 1960.

118 The Athabasca oil sands. Carrigy, M.A., Zamora, W.J.; Oil Fields of Alberta, Alberta Society of Petroleum Geologists, 38-49, 1960.

119 Evolution and industry. Grace, N.H.; Evolution: Its science and doctrine, Symposium, Royal Society of Canada, 199-209, 1960.

120 The reduction of pressure gradients in oil pipelines: Experimental results for stratified flow of a heavy crude oil and water. Charles, M.E.; Canadian Mining and Metallurgical Bulletin 53, 483-494, Transaction 63, 305-309, 1960.

121 A study of aggregative fluidization. Davies, G., Robinson, D.B.; Canadian Journal of Chemical Engineering 38, 175-183, 1960.

122 Mechanisms of coal pyrolysis. III. Variations of the magnetic mass susceptibility and some related parameters with carbonization temperature. Berkowitz, N., Cavell, P.A.; Fuel 39(5), 401-412, 1960.

123 Soils developed under forest in the Great Plains region. Ehrlich, W.A., Odynsky, W.; Agricultural Institute Review, March-April, 29-32, 1960.

124 The diffusion of helium through sedimentary rocks. Newton, R., Round, G.F.; Geochimica et Cosmochimica Acta 22, 106-132. (Also Akademii Nauk S.S.S.R.; Geokhimiya No. 4, 332-353), 1961.

125 The horizontal pipeline flow of equal density oil-water mixtures. Charles, M.E., Govier, G.W., Hodgson, G.W.; Canadian Journal of Chemical Engineering 39, 27-36, 1961.

126 Lower Cretaceous coal deposits in the Foothills between Sheep Creek and Wildhay River, Alberta. Pearson, G.R.; Field Trip Guidebook, Edmonton Geological Society, 72-81, 1960.

127 Plate height in programmed temperature gas chromatography. Habgood, H.W., Harris, W.E.; Analytical Chemistry 32, 1206, 1960.

128 'Permissible' molecular structures for humic acids. Berkowitz, N., Srivastava, S.C.; Fuel 39(6), 513-514, 1960.

129 Effects of regional variations of crude oil and reservoir characteristics on in situ combustion and miscible phase recovery of oil in Western Canada. Hitchon, B., Round, G.F., Charles, M.E., Hodgson, G.W.; Bulletin, American Association of Petroleum Geologists 45(3), 281-314, 1961.

130 Determination of fluid saturation in porous media by a radio frequency method. Round, G.F.; Nature 188(4747), 305-308, 1960.

131 Student-scientist workshops. Hodgson, G.W.; Chemistry in Canada 13(5), 1-4, 1961.

132 Science in the use of coking coals. Berkowitz, N.; Proceedings, 12th Dominion-Provincial Coal Research Conference, Ottawa, 1960.

133 Determinations of spring load carrying capacity from Benkelman beam deflections. Shields, B.P., Curtis, W.E.; Proceedings, 41st Annual Convention, Canadian Good Roads Association, 71-87, 1960.

134 Coal-in-oil pipelining. Berkowitz, N., Hodgson, G.W., Moreland, C., Round, G.F.; Oil in Canada 13, 25-29, 1961.

135 Heat flow in Western Canada. Garland, G.D., Lennox, D.H.; Geophysical Journal of the Royal Astronomical Society 6(2), 245-262, 1962.

136 Rate of formation of the nickel complex of pheophytin. Hodgson, G.W., Baker, B.L.; Journal of Physical Chemistry 65, 1078-1079, 1961.

137 Variable mesh size in iteration methods of solving partial differential equations and its application to heat transfer. Round, G.F., Newton, R., Redberger, P.J.; Chemical Engineering Progress Symposium Series 58(37), 29-42, 1962.

138 Studies in humic acid chemistry. I. Molecular weights of humic acids in sulpholane. Wood, J.C., Moschopedis, S.E., Elofson, R.M.; Fuel 40(3), 193-201, 1961.

139 A semantic review of the terminology of groundwater maps. Mayboom, P.; International Association Science Hydrology Bulletin 6(1), 29-36, 1961.

140 Estimating groundwater recharge from stream hydrographs. Meyboom, P.; Journal of Geophysical Research 66(4), 1203-1214, 1961.

141 Chisel attachments for the blade cultivator. Mathieu, A.L.; Canadian Journal of Soil Science 41(1), 81-85, 1961.

142 Public lands open for settlement in the fringe area of central Alberta. Odynsky, W., Paul, A.D., Wood, V.A.; Department of Lands and Forests and Research Council of Alberta, Second Edition, 36 pages, 1960.

143 Mechanisms of coal pyrolysis. IV. Variation of the diamagnetic susceptibility and free radical concentration with carbonization temperature. Berkowitz, N., Cavell, P.A., Elofson, R.M.; Fuel 40(4), 279-288, 1961.

144 Critical factors in the colorimetric determination of silica. Govett, G.J.S.; Analytica Chemica Acta 25, 69-80, 1961.

145 The hydraulic capacity of large corrugated-metal culverts. Neill, C.R.; Engineering Journal 45(2), 33-38, 1962.

146 Correlation of the Blairmore group and equivalent strata. Mellon, G.B., Wall, J.H.; Edmonton Geological Society Quarterly 5(1), 1-11. Also, Bulletin of Canadian Petroleum Geology 11(4), 396-409, 1963.

147 The hydrogen isotope effect in the pyrolysis of cyclopropane. Blades, A.T.; Canadian Journal of Chemistry 39, 1401-1407, 1961. 162 Hydraulic roughness of corrugated pipes. Neill, C.R.; Journal, Hydraulics Division Proceedings, American Society of Civil Engineering, May 1962, 23-44.

148 Tetrakis-(p-dimethylaminophenyl)-ethylene diiodide and its free radical behavior. Elofson, R.M., Gutowsky, H.S., Levine, S., Sandin, R.B., Anderson, D.H.; Journal, American Chemical Society 83, 3157-3158, 1961. 163 The baseflow-duration curve, a technique for the study of groundwater discharge from a drainage basin. Kunkle, G.R.; Journal of Geophysical Research 67(4), 1543-1554, 1962.

149 Humic acid chemistry. II. Humic anhydrides. Wood, J.C., Moschopedis, S.E., denHertog, W.; Fuel 40(6), 491-502, 1961. 164 Axial laminar flow in a circular pipe containing a fixed eccentric core. Redberger, P.J., Charles, M.E.; Canadian Journal of Chemical Engineering 40, 148-151, 1962.

150 Paleoclimatic significance of evaporites. Green, R.; Descriptive Paleoclimatology, edited by A.E. Nairn, Interscience Publishers, New York and London, 61-88, 1961. 165 The young chemical engineer and his professional development. Part 3. Research and development. Hodgson, G.W., Young, J.W.; Chemistry in Canada 14(9), 56-57, 1962.

151 Glacial deposits of Alberta. Bayrock, L.A., Gravenor, C.P.; Royal Society of Canada Special Publications Number 3, Soils in Canada, 33-50, 1961. 166 Zonal relationships in Lower Mississippian rocks of Alberta. Green, R.; Journal, Alberta Society of Petroleum Geologists 10(6), 292-307, 1962.

152 The hydraulics of the pipeline flow of solid-liquid mixtures. Govier, G.W., Charles, M.E.; The Engineering Journal 44(8), 50-57, 1961. 167 Studies in humic acid chemistry. III. Reaction of humic acids with diazonium salts. Moschopedis, S.E.; Fuel 41(5), 425-435, 1962.

153 Spectrophotometric determination of titanium in silicate rocks. Rigg, T., Wagenbauer, H.A.; Analytical Chemistry 33(10), 1347-1349, 1961. 168 Petrology of the Upper Cretaceous oolitic iron rich rocks from northern Alberta. Mellon, G.B.; Economic Geology 57, 921-940, 1952.

154 Resolution in programmed temperature gas chromatography. Fryer, J.F., Habgood, H.W., Harris, W.E.; Analytical Chemistry 33, 1515-1520, 1961. 169 Mechanisms of coal pyrolysis. V. Kinetics of pyrolytic de-hydrogenation in the range of 600° to 800°C. Berkowitz, N., denHertog, W.; Fuel 41(6), 507-520, 1962.

155 Metal chlorin complexes in recent sediments as initial precursors to petroleum porphyrin pigments. Hodgson, G.W., Peake, E. Nature 191 (4790), 766-767, 1961. 170 Public lands open for settlement in the Peace River district, Alberta. Odynsky, W., Paul, A.D., Wood, V.A.; Department of Lands and Forests and Research Council of Alberta, Fourth Edition, 35 pages, 1961.

156 The Bruderheim meteorite, fall and recovery. Folinsbee, R.E., Bayrock, L.A.; Journal, Royal Astronomical Society, Canada 55(5), 218-228, 1961. 171 Carbon black technology. Slaniceanu, R.D.; Proceedings Symposium on Alberta Petrochemical Industry, Edmonton, 111-133, with 12 additional appendices, 1962.

157 An outcrop occurrence of the first or upper white speckled shale 'zone' in southern Alberta. Wall, J.H., Germundson, R.K.; Journal, Alberta Society of Petroleum Geologists 9(11), 343-346, 1961. 172 Capillary programmed temperature gas chromatography - some theoretical aspects. Habgood, H.W., Harris, W.E.; Analytical Chemistry 34, 882-885, 1962.

158 Extraction of helium from natural gas - an investigation of the diffusion-through-glass process. Melnyk, N., Habgood, H.W.; Canadian Mining and Metallurgical Bulletin, Transaction 64, 463-469, 1961. 173 Heavy minerals in till of central Alberta. Bayrock, L.A.; Journal, Alberta Society of Petroleum Geologists 10(4), 171-184, 1962.

159 The reduction of pressure gradients in oil pipelines by the addition of water: numerical analysis of stratified flow. Charles, M.E., Redberger, P.J.; The Canadian Journal of Chemical Engineering 40, 70-75, 1962. 174 Boundaries of the Edmonton Formation in the central Alberta plains. Campbell, J.D.; Journal, Alberta Society of Petroleum Geologists 10(6), 308-319, 1962.

160 Structural pattern of the Precambrian Shield in northeastern Alberta and mica age-dates from the Andrew Lake district. Godfrey, J.D., Baadsgaard, H.; The Royal Society of Canada Special Publications Number 4, The Tectonics of the Canadian Shield, pages 30-39, 1962. 175 The hydrogen isotope effects in the pyrolysis of ethyl-1, 1, 2, 2-d₄ chloride. Blades, A.T., Gilderson, P.W., Wallbridge, M.G.H.; Canadian Journal of Chemistry 40, 1526-1532, 1962.

161 Gas chromatography. Habgood, H.W.; Annual Review of Physical Chemistry 13, 259-280, 1962. 176 The hydrogen isotope effects in the pyrolysis of ethyl-1, 1, 2, 2-d₄ bromide and of ethyl-d₅ bromide. Blades, A.T., Gilderson, P.W., Wallbridge, M.G.H.; Canadian Journal of Chemistry 40, 1533-1539, 1962.

177 Effect of texture on the distribution of oil in the Athabasca oil sands, Alberta, Canada. Carrigy, M.A.; *Journal of Sedimentary Petrology* 32(2), 312-325, 1962.

178 The pipeline flow of capsules - potential industrial applications. Hodgson, G.W., Bolt, L.H.; *Engineering Journal* 45(12), 25-30, 1962.

179 The pipeline flow of capsules. Part 1. The concept of capsule pipelining. Hodgson, G.W., Charles, M.E.; *Canadian Journal of Chemical Engineering* 41, 43-45, 1963.

180 The pipeline flow of capsules. Part 2. Theoretical analysis of the concentric flow of cylindrical forms. Charles, M.E.; *Canadian Journal of Chemical Engineering* 41, 46-51, 1963.

181 How to make foamed sulfur. Hodgson, G.W.; *Oilweek* 13(16), 32, 1962.

182 A theory of groundwater motion in small drainage basins in central Alberta, Canada. Toth, J.; *Journal of Geophysical Research* 67(11), 4375-4387, 1962.

183 Geophysical methods of locating aquifers in the Prairies. Lennox, D.H.; *Proceedings, Hydrology Symposium Number 3 - Groundwater*, 251-291, 1962.

184 A regional picture of the groundwater chemistry in particular aquifers on the western Plains. LeBreton, E.G., Jones, J.F.; *Proceedings, Hydrology Symposium Number 3 - Groundwater*, 207-245, 1962.

185 A theoretical analysis of groundwater flow in small drainage basins. Toth, J.; *Journal of Geophysical Research* 68(16), 4795-4812, 1963.

186 Granulometric properties of cement stabilized sands. Hutchinson, B.G.; *Journal, Soil Mechanics and Foundations Division, American Society of Civil Engineers* 89, No. SM3, May, 95-102, 1963.

187 Note on a modification for the Beckman DU flame spectrophotometer. Mathieu, A.L., Burtch, N.; *Canadian Journal of Soil Science* 41, 134-135, 1961.

188 Note on an air-jet stirrer for the Beckman DU flame spectrophotometers. Mathieu, A.L., Carson, J.A.; *Canadian Journal of Soil Science* 41, 136-137, 1961.

189 Settling velocities of coal particles. Moreland, C.; *Canadian Journal of Chemical Engineering* 41, 108-110, 1963.

190 The nature of coal research. Berkowitz, N.; *Proceedings, 14th Dominion-Provincial Conference on Coal*, Winnipeg, September 1962, 13-20.

191 The pipeline flow of coal-in-oil suspensions. Berkowitz, N., Moreland, C., Round, G.F.; *Canadian Journal of Chemical Engineering* 41, 116-121, 1963.

192 Biosynthesis of branched chain fatty acids. I. Isolation and identification of fatty acids from *Bacillus subtilis* (ATCC-7059). Kaneda, T.; *The Journal of Biological Chemistry* 283(4), 1222-1228, 1963.

193 Biosynthesis of branched chain fatty acids. II. Microbial syntheses of branched long chain fatty acids from certain short chain fatty acid substrates. Kaneda, T.; *The Journal of Biological Chemistry* 238(4), 1229-1235, 1963.

194 Market control on the development of the Athabasca oil sands. Hodgson, G.W.; *Chemical Engineering Progress Symposium Series* 61(54), 1965.

195 The origin of petroleum porphyrins: pigments in some crude oils, marine sediments and plant material of Japan. Hodgson, G.W., Ushijima, N., Taguchi, K., Shimada, I.; *Science Reports of the Tohoku University Series 3*, 8(3), 483-513, 1963.

196 Lower Cretaceous section, Belcourt Ridge, north-eastern British Columbia. Mellon, G.B., Wall, J.H., Stelck, C.R.; *Bulletin, Canadian Petroleum Geology* 11(1), 64-72, 1963.

197 Valine as a source of the branched short chain precursors in the biosynthesis of iso-C₁₄, ido-zv₁₅, iso-C₁₆ and iso-C₁₇ fatty acids by *Bacillus subtilis*. Kaneda, T.; *Biochemical and Biophysical Research Communications* 10(3), 283-287, 1963.

198 Viscosity of suspensions of coal in mineral oil. Moreland, C.; *Canadian Journal of Chemical Engineering* 41, 24-28, 1963.

199 Some newer concepts of solids pipelining. Berkowitz, N.; *Proceedings, Annual Meeting, American Institute Mechanical Engineering, Iron and Steel Division*, 567-588, 1963.

200 A computer model for evaluating the impact of fossil fuel transportation research. Hodgson, G.W., Mansfield, R.J.; *Journal of Canadian Petroleum Technology* 2(1), 30-39, 1963.

201 Reply (to discussion of paper by J. Toth: A Theory of groundwater motion in small drainage basins in central Alberta, Canada, by S.N. Davis). Toth, J.; *Journal of Geophysical Research* 68(8), 2354-2356, 1963.

202 An infrared spectroscopic study of the adsorption of water and carbon dioxide by Linde molecular sieve X. Habgood, H.W., Bertsch, L.; *Journal of Physical Chemistry* 67, 1621-1628, 1963.

203 On the relationship between internal pressure and ultrasonic velocity. Berkowitz, N., Srivastava, S.C.; *Canadian Journal of Chemistry* 41, 1787-1793, 1963.

204 Random packing of equal spheres on a plane surface. Round, G.F., Newton, R.; *Nature* 198(4882), 747-749, 1963.

205 Morphological and chemical characteristics of the Solonetzic soils of northwestern Alberta. Reeder, S.W., Odynsky, W.; *Canadian Journal of Soil Science* 44, 22-33, 1964.

206 Some reactions of solid tetrakis-(p-dimethylaminophenyl)-ethylene diiodide monohydrate. Elofson, R.M., Anderson, D.H., Gutowsky, H.S., Sandin, R.B., Schulz, K.F.; *Journal of the American Chemical Society* 85, 2622-2624, 1963.

207 Homogeneous liquid-phase halogenation of coal and humic acids. Moschopedis, S.E., Srivastava, S.C., Wood, J.C., Berkowitz, N.; *Fuel* 42(4), 338-340, 1963. 222

208 Geochemical studies of natural gas. Part I. Hydrocarbons in western Canadian natural gases. Hitchon, B.; *The Journal of Canadian Petroleum Technology* 2(2), 60-76, 1963. 223

209 Callixylon from the Upper Devonian of northwestern Alberta. Campbell, J.D.; *Journal of Botany* 50(7), 648-652, 1963. 224

210 Laboratory studies on the flow of nickel-water suspension. Ellis, H.S., Round, G.F.; *Canadian Institute Mining and Metallurgical Bulletin* 55, 773-781. *Transaction* 66, 345-353, 1963. 225

211 Discriminatory analysis of calcite- and silicate-cemented phases of the Mountain Park sandstone. Mellon, G.B.; *Journal of Geology* 72(6), 786-809, 1964. 226

212 The oxidation of charcoal by carbon dioxide. Rosenbloom, M.P.; *Proceedings, 1st Conference Fuel Technology Canada*, 149-160, 1963. 227

213 On possibilities for pipelining coal in Canada. Berkowitz, N., Jensen, E.J.; *Canadian Institute of Mining and Metallurgical Bulletin* 55, 504-508. *Transaction* 66, 258-262, 1963. 228

214 Transporting solids by pipeline a) slurries, b) capsules and slugs. Ellis, H.S., Redberger, P.J., Bolt, L.H.; *Industrial and Engineering Chemistry* 55(8), 18-26 and (9), 29-34, 1963. 229

215 Transmissibility determination by the bail-test method. Lennox, D.H., Jones, J.F.; *Ground Water* 2(1), 38-39, 1964. 230

216 Pipeline flow of capsules. Charles, M.E.; *Canadian Journal of Chemical Engineering* 41, 212, 1963. 231

217 Paleocurrent directions from the McMurray Formation. Carrigy, M.A.; *Bulletin, Canadian Petroleum Geologists* 11(4), 389-395, 1963. 232

218 The pipeline flow of capsules. Part 3. An experimental investigation of the transport by water of single cylindrical and spherical capsules with density equal to that of water. Ellis, H.S.; *Canadian Journal of Chemical Engineering* 42, 1-8, 1964. 233

219 The pipeline flow of capsules. Part 4. An experimental investigation of the transport in water of single cylindrical capsules with greater density than that of water. Ellis, H.S.; *The Canadian Journal of Chemical Engineering* 42, 69-76, 1964. 234

220 Petrology of coarse-grained sands in the lower part of the McMurray Formation. Carrigy, M.A.; K.A. Clark Volume, *Proceedings, 2nd Athabasca Oil Sands Conference*, 43-54. (Research Council of Alberta, Information Series 45), 1963. 235

221 The kinetics of the thermal reactions of ethylene oxide. Blades, A.T., Neufeld, M.L.; *Canadian Journal of Chemistry* 41, 2956-2961, 1963. The origin of petroleum porphyrins: the position of the Athabasca oil sands. Hodgson, G.W., Peake, E., Baker, B.L.; K.A. Clark Volume, *Proceedings, 2nd Athabasca Oil Sands Conference*, 75-100, Alberta Research Council Information Series 45, 1963.

Low-ash asphalt and coke from Athabasca oil sands oil. Pasternack, S.; K.A. Clark Volume, *Proceedings, 2nd Athabasca Oil Sands Conference*, 207-229, Alberta Research Council Information Series 45, 1963.

Composition and movement of formation fluids in strata above and below the pre-Cretaceous unconformity in relation to the Athabasca oil sands. Hitchon, B.; K.A. Clark Volume, *Proceedings, 2nd Athabasca Oil Sands Conference*, 63-74, Alberta Research Council Information Series 45, 1963.

Transportation of sulfur by pipeline. Habgood, H.W.; *Oilweek* 14(35), 29-34, 1963.

Geochemical studies of natural gas. Part II. Acid gases in western Canadian natural gases. Hitchon, B.; *Journal of Canadian Petroleum Technology* 2(3), 100-116, 1963.

Microfaunas, megafaunas, and rock-stratigraphic units in the Alberta Group (Cretaceous) of the Rocky Mountain Foothills. Wall, J.H., Germundson, R.K.; *Bulletin of Canadian Petroleum Geology* 11(4), 327-349, 1963.

Measuring scour around bridge foundations in floods. Neill, C.R., Sanden, E.J.; *Public Works in Canada* 11(7), 14-17, 1963.

The pipeline flow of capsules. Part 5. An experimental investigation of the transport by water of single spherical capsules with density greater than that of the water. Ellis, H.S.; *Canadian Journal of Chemical Engineering* 42, 155-161, 1964.

Measurements of bridge scour and bed changes in a flooding sand-bed river. Neill, C.R.; *Proceedings, The Institution of Civil Engineers* 39, 415-436, 1965.

Retention indices in programmed temperature gas chromatography. Habgood, H.W., Harris, W.E.; *Analytical Chemistry* 36(3), 663-665, 1964.

Preliminary observations on concrete pavements in Alberta. Shields, B.P.; Ford, G.; *Proceedings, 42nd Annual Convention of the Canadian Good Roads Association*, 106-131, 1961.

Evaluation of soil cement bases in Alberta. Shields, B.P., Hutchinson, B.G.; *Proceedings, 42nd Annual Convention of the Canadian Good Roads Association*, 424-438, 1961.

A preliminary analysis of the relationship of axle loading to pavement deflection. Shields, B.P.; *Proceedings, 42nd Annual Convention of the Canadian Good Roads Association*, 163-171, 1961.

A field program for the measurement of subgrade moisture and density conditions. Rix, H.H.; *Proceedings, 43rd Annual Convention of the Canadian Good Roads Association*, 290-296, 1962.

236 Stabilization of plastic soils with lime. Shields, B.P., Anderson, K.O.; Proceedings, 44th Annual Convention of the Canadian Good Roads Association, 39 pages, 1953.

237 Authigenic clay mineral cements in Cretaceous and Tertiary sandstones of Alberta. Carrigy, M.A., Mellon, G.B.; *Journal of Sedimentary Petrology* 34(3), 461-72, 1964.

238 New data on Bison athabascae Rhoads. Bayrock, L.A., Hillerud, J.; *Journal of Mammalogy* 45, 630-632, 1964.

239 Peace River meteorite: fall and recovery. Bayrock, L.A., Folinsbee, R.E.; *Journal of the Royal Astronomical Society of Canada* 58, 109-124, 1964.

240 Some temperature effects in gas chromatography. Habgood, H.W., Harris, W.E.; *Talanta* 11, 115-128, 1964.

241 The pipeline flow of capsules. Part 6. Numerical analysis of some variables. Determining free flow. Newton, R., Redberger, P.J., Round, G.F.; *Canadian Journal of Chemical Engineering* 42, 168-173, 1964.

242 Geochemical studies of natural gas. Part III. Inert gases in western Canadian natural gases. Hitchon, B.; *Journal of Canadian Petroleum Technology* 2(4), 165-174, 1964.

243 Limitations of radiometric dating. Baadsgaard, H., Cumming, G.L., Folinsbee, R.E., Godfrey, J.D.; Royal Society of Canada Special Publications Number 8, *Geochronology in Canada*, 20-38, 1963.

244 The preparation of thiones in the presence of anhydrous hydrogen fluoride. Elofson, R.M., Baker, L.A., Gadallah, F.F., Sikstrom, R.A.; *Journal of Organic Chemistry* 29, 1355-1357, 1964.

245 Land-vegetation typology of the Upper Oldman River Basin, Alberta. Jeffrey, W.W., Bayrock, L.A., Lutwick, L.E., Dormaar, J.F.; Canada Department of Forestry and Rural Development, Forestry Branch Publication No. 1202, 61 pages, 1964.

246 Coal as a non-fuel source material: the present status. Berkowitz, N.; *Engineering Journal* 47, 25-31 (1964), and 48, 24-28 (1965).

247 Alluvial processes and river channel regime. Neill, C.R.; *Transactions of the Engineering Institute of Canada* Volume 7, No. A-3, paper EIC-64-CIV 3, 1-7, 1964.

248 Mechanisms of coal pyrolysis. Part VI. Reaction patterns in the range 650°-850°C. Neufeld, L.F., Berkowitz, N.; *Fuel*, 43(3), 189-202, 1964.

249 Groundwater measurement. Geiger, K.W., Hitchon, B.; *Proceedings, Symposium on Hydrogeology Number 4: Research Watersheds*, 245-273, 1965.

250 Evidence for porphyrins in the Orgueil meteorite. Hodgson, G.W., Baker, B.L.; *Nature* 202(4928), 125-131, 1964.

251 The pipeline flow of capsules. Part 7. An experimental investigation of the transport by two oils of cylindrical and spherical capsules with densities equal to that of the oil. Ellis, H.S., Bolt, L.H.; *Canadian Journal of Chemical Engineering* 42, 201-206, 1964.

252 A hydrometallurgical process for the extraction of iron from low grade ores. Gravenor, C.P., Govett, G.J.S., Rigg, T.; *Canadian Mining and Metallurgical Bulletin* 57, 421-428, 1964.

253 Inverse secondary intermolecular isotope effects in the low pressure thermal isomerization of cyclopropane. Rabinovitch, B.S., Gilderson, P.W., Blades, A.T.; *Journal of the American Chemical Society* 86, 2294-2296, 1954.

254 Chlorophyll. Hodgson, G.W.; *Encyclopedia of Earth Sciences* (Editor: R. Fairbridge), 4, Reinhold, New York, 1964.

255 Organic pigments. Hodgson, G.W.; *Encyclopedia of Earth Sciences* (Editor: R. Fairbridge), 4, Reinhold, New York, 1964.

256 Kinetics of the reduction of ferrous chloride with hydrogen. Rigg, T.; *Canadian Journal of Chemical Engineering* 42, 247-253, 1964.

257 Frog Lake bolide. Bayrock, L.A., Larson, M.; *Journal of the Royal Astronomical Society Canada* 48(4), 191-192, 1964.

258 Pipeline transmission of coal and other materials in association with oil. Berkowitz, N.; *Proceedings, Societe Royale Belge de Ingenieurs et Industriels, First Conference on Current Developments in Fuel Utilization*, paper 4.1-4.14, 1964.

259 Periglacial structures in the Saskatchewan gravels and sands of central Alberta. Westgate, J.A., Bayrock, L.A.; *Journal of Geology* 72(5), 641-648, 1964.

260 Soil profile development in some Peace River soils. Lavkulich, L.M., Pawluk, S., Odynsky, W.; *Canadian Journal of Soil Science* 44, 188-195, 1964.

261 X-ray diffraction microcamera technique for identification of clay minerals in sandstones. Carrigy, M.A., Mellon, G.B., Pothecary, D.B.; *Norelco Reporter* 11(4), 138-139, 1964.

262 Reaction of diazonium salts with humic acids and coals: evidence for activated methylene bridges in coals and humic acids. Moschopedis, S.E., Wood, J.C., Fryer, J.F., Elofson, R.M.; *Fuel* 43(4), 289-298, 1964.

263 The water and hydrocarbon cycles in the formation of oil accumulation. Hodgson, G.W., Hitchon, B., Taguchi, K.; *Professor Ken Sugawara Festival Volume, Recent research in the fields of hydrosphere, atmosphere, and nuclear geochemistry*, 217-242.

264 Fossil Scaphiopus and Bufo in Alberta. Bayrock, L.A.; *Journal of Paleontology* 38(6), 1111-1112, 1964.

265 Coal research in Canada, 1963. Berkowitz, N.; *Canadian Mining and Metallurgical Bulletin* 57, 956-958.

266 The dry oxidation of subbituminous coal. Jensen, E.J., Melnyk, N., Wood, J.C., Berkowitz, N.; *Advanced Chemical Series* 55, 621-642, 1964. 280

267 Current studies on transverse cracking of asphalt pavements. Shields, B.P.; *Proceedings, Conference on Recent Developments in Design and Construction of Asphalt Pavements*, 127-146, 1964. 281

268 Thermal cracking of Athabasca oil sands oil. Part I. Changes in some properties of the oil and its components. Pasternack, D.S.; *Journal of Canadian Petroleum Technology* 3, 39-45, 1964. 282

269 Adsorptive and gas chromatographic properties of various cationic forms of zeolite. Habgood, H.W.; *Canadian Journal of Chemistry* 42, 2340-2350, 1964. 283

270 Research trends in petroleum genesis. Hodgson, G.W., Hitchon, B.; Paper 34, *Proceedings 8th Commonwealth Mining and Metallurgical Congress, Petroleum* 5, 9-19, 1965. 284

271 Formation fluids. Hitchon, B.; R.G. McCross and R.P. Glaister, editors; *Geological History of Western Canada*, Alberta Society of Petroleum Geologists, Calgary, 201-217, 1964. 285

272 The effect of difference in interpretation on the lithological evaluation of electric logs. Hitchon, B.; *Bulletin of Canadian Petroleum Geology* 12(3), 754-769, 1964. 286

273 Characteristics and genesis of brunisolic soils of northern Alberta. Lindsay, J.D., Pawluk, S.; *Canadian Journal of Soil Science* 44, 292-303, 1964. 287

274 The pipeline movement of solids as capsules and paste slugs. Jensen, E.J., Berkowitz, N.; *Proceedings, Intermountain Symposium on Fossil Hydrocarbons*, Salt Lake City, 141-151, 1964. 288

275 The hydrogen isotope effect in the thermal decomposition of malonic acid. Blades, A.T., Wallbridge, M.G.H.; *Journal of the Chemical Society* 130, 792-794, 1965. 289

276 The thermal cracking of Athabasca oil sands oil. Part II. Cohesiveness of carbon residue from fluidized coker distillate. Pasternack, D.S.; *Journal of Canadian Petroleum Technology* 3, 91-94, 1964. 290

277 New technologies in transportation: pipelines. Hodgson, G.W.; *Proceedings, 3rd National Northern Development Conference*, October 1964, 151-157. 291

278 Exploration for and testing of groundwater supplies for secondary recovery. Lennox, D.H.; *Journal of Canadian Petroleum Technology* 3, 151-157, 1964. 292

279 The pipeline flow of capsules. Part 8. An experimental investigation of the transport in oil of single, denser-than-oil, spherical and cylindrical capsules. Round, G.F., Bolt, L.H.; *Canadian Journal of Chemical Engineering* 43, 197-205, 1965. 293

280 Groundwater-level fluctuations in Alberta, Canada, caused by the Prince William Sound, Alaska, earthquake of March 1964. Gabert, G.M.; *Canadian Journal of Earth Sciences* 2, 131-139, 1965. 294

281 River bed scour: a review for bridge engineers. Neill, C.R.; *Technical Publications* 23, Canadian Good Roads Association, 44 pages, 1964. 295

282 The use of capsules for solids transmission in pipelines. Kruyer, J., Ellis, H.S.; *Journal of Canadian Petroleum Technology* 4, 159-166, 1965. 296

283 Electron spin resonance studies of organic matter in the Orgueil meteorite. Schulz, K.F., Elofson, R.M.; *Geochimica Cosmochimica Acta* 29, 157-160, 1965. 297

284 Chemistry of 1,2-bis (p-dimethylaminophenyl)-1, 2-di phenylethylene molecular complexes with iodine. Elofson, R.M., Schulz, K.F., Sandin, R.B.; *Journal of Organic Chemistry* 30, 1819, 1821, 1965. 298

285 Thermal cracking of Athabasca oil sands oil. Part III. A study of asphaltic components of Alberta petroleum oils and asphalts. Pasternack, D.S.; *Journal of Canadian Petroleum Technology* 3, 141-144, 1964. 299

286 The electron spin resonance spectra of some methylated anthrasemiquinones: evidence for restricted rotation. Elofson, R.M., Schulz, K.F., Galbraith, B.E., Newton, R.; *Canadian Journal of Chemical Engineering* 43, 1553-1559, 1965. 300

287 Sample injection in programmed temperature gas chromatography and its significance in trace analysis. Habgood, H.W., Hollingshead, L.W., Harris, W.E.; *Canadian Journal of Chemical Engineering* 43, 1560-1568, 1965. 301

288 Permafrost in organic soils of Northern Alberta. Lindsay, J.D., Odynksy, W.; *Canadian Journal of Soil Science* 44, 188-195, 1965. 302

289 Pipeline flow of past slugs. Part I. Concepts and general flow behavior. Berkowitz, N., Brown, R.A.S., Jensen, E.J.; *Canadian Journal of Chemical Engineering* 43, 280-285, 1965. 303

290 Surface OH groups on zeolite X. Habgood, H.W.; *Journal of Physical Chemistry* 69, pages 1764-1768, 1965. 304

291 The photolysis of cyclopentanone and cyclobutanone. Klemm, R.F., Morrison, D.N., Gilderson, P.W., Blades, A.T.; *Canadian Journal of Chemistry* 43, 1934-1941, 1965. 305

292 Petroleum research in Alberta. Pasternack, D.S., Habgood, H.W.; *Chemistry in Canada* 17(5), 34-36, 1965. 306

293 Sulfur fractions of selected Alberta soil profiles of the chernozemic and podzolic orders. Lowe, L.E.; *Canadian Journal of Soil Science* 45, 297-303, 1965. 307

294 Hydrogen atom abstraction from ethyleneimine and ethyleneimine d4. Klemm, R.F.; *Canadian Journal of Chemistry* 43, 2633-2637, 1965. 308

295 A practical projection of capsule pipelining: Edmonton-Hardisty trunkline test. Hodgson, G.W., Kruyer, J., Roehl, A.A., Round, G.F., Ellis, H.S.; *Journal of Canadian Petroleum Technology* 6(1), 1-5, 1967.

296 Late Pleistocene mammals from central Alberta, Canada. Fuller, W.A., Bayrock, L.A.; *Vertebrate Paleontology in Alberta - Report, Conference held at the University of Alberta, August-September 1963*, 53-63.

297 Quaternary. Gravenor, C.P., Bayrock, L.A., Matthews, W.H., Kupsch, W.O., Christiansen, E.A., Barton, R.H.; R.G. McCrossan and R.P. Glaister, editors, *Geological History of Western Canada*, Alberta Society of Petroleum Geologists, Calgary, 195-200, 1965.

298 Coal resources in southeastern Alberta and their setting. Campbell, J.D.; *Cypress Hills Guidebook, Alberta Society of Petroleum Geologists*, Calgary, 226-235, 1965.

299 New horizons in pipeline carriers. Hodgson, G.W.; *Industrial Canada* 66(3), 114-117, 1965.

300 Capsule pipelining: a key to the future. Hodgson, G.W.; *Proceedings, 42nd Annual Meeting of the International Oil Scouts Association*, 15-17, 1965.

301 Alkanes in aqueous systems. 1. Exploratory investigations on the accommodation of C_{20} - C_{33} n-alkanes in distilled water and occurrence in natural water systems. Peake, E., Hodgson, G.W.; *Journal of the American Oil Chemists Society* 43(4), 215-222, 1966.

302 Incomplete continental glacial record of Alberta. Bayrock, L.A.; *Proceedings 7th International Congress, International Quaternary Research*, Boulder, Colorado, August 30-September 6, 1965, in *Quaternary Geology Climate Publication 1701*, National Academy of Science, Washington, D.C., 99-103.

303 Fluid dynamics and pipeline studies at the Research Council of Alberta. Hodgson, G.W.; *Proceedings, 1st Anniversary Meeting of the Canadian Transportation Research Forum*, Quebec City, 469-484, 1965.

304 Alberta groundwater research program. Lennox, D.H.; *Proceedings, Western Canada Water and Sewer Conference*, Edmonton, September 1965, 23 pages.

305 Hozzaszolar Dr. Szebenyi Lajos: Az artezi viz forgalmanak mennysegi meghatarozasa cimu tanulmanyahoz. (Discussion of a paper by Dr. L. Szebenyi: Quantitative determination of artesian water circulation). Toth, J.; *Hidrologiai kozlony* 6, 261-264, 1966.

306 Origin of banded iron formations. Govett, G.J.S.; *Geological Society of America Bulletin* 77, 1191-1211, 1966.

307 Thermal separation of coal-in-oil suspensions in a fluidized bed. Round, G.F., Kruyer, J., Hodgson, G.W.; *Canadian Journal of Chemical Engineering* 44, 43-46, 1966.

308 The separation and determination of organic and inorganic sulfate in soil extracts. Lowe, L.E.; *Canadian Journal of Soil Science* 46, 92-93, 1966.

309 An annotated bibliography of programmed temperature gas chromatography, 1952-1964. Harris, W.E., Habgood, H.W.; *Journal of Gas Chromatography* 4, 144-146, 168-172, 217-225, available from Preston Technical Abstracts Company, 909 Pitner Avenue, Evanston, Illinois, 1966.

310 Programmed temperature gas chromatography. Harris, W.E., Habgood, H.W.; *John Wiley & Sons*, New York, 305 pages, 1966.

311 Chromatography and the solid-gas interface. Habgood, H.W.; *The Solid/Gas Interface*, E.A. Flood, Marcel Dekker, editors, New York, 611-646, 1966.

312 Effects of temperature on carrier-gas flow rates in packed and capillary columns. Horlick, G., Harris, W.E., Habgood, H.W.; *Analytical Chemistry* 38, 7-9, 1966.

313 Seasonal variations in flexible strength. Shields, B.P., Dacyszyn, J.M.; *Proceedings, 46th Annual Convention Canadian Good Roads Association*, 394-409, 1965.

314 Some aspects of transverse cracking in asphalt pavements. Shields, B.P., Anderson, K.O.; *Proceedings, 9th Annual Conventional Canadian Technical Asphalt Association* 9, 209-226, 1964.

315 Mechanisms of coal pyrolysis. VII. The dependence of diamagnetic properties upon the duration of heat treatment. Brown, H.M., Berkowitz, N.; *Fuel* 45(3), 206-220, 1966.

316 Field and laboratory performance of a nuclear moisture and density measuring system. Rix, H.H.; *Proceedings, 46th Annual Convention Canadian Good Roads Association*, 212-226, 1965.

317 Pipelining of potash - an examination of the possibilities. Hodgson, G.W., Jensen, E.J.; *Proceedings, Potash Show, Saskatoon*, 294-305. *Transportation Journal* 5(4), 31-37, 1966.

318 On the wetting of carbon surfaces by carbonaceous binders. Agrawal, D.P., Berkowitz, N.; *Proceedings, 9th Biennial Conference, Institute of Briquetting Association*, Denver, 104-114, 1965.

319 The numerical analysis of electron spin resonance spectra with hyperfine structure. Newton, R., Schulz, K.F., Elofson, R.M.; *Canadian Journal of Chemistry* 44, 752-784, 1966.

320 Rorledningstransport af faste stoffer er en lovende mulighed, (Pipeline transport of solids is a promising possibility). Jensen, E.J.; *Ingeniorens Ugeblad* 9(46), 36-40, 1965.

321 Experiments on the suspension of spheres in inclined tubes. I. Suspension by water in turbulent flow. Round, G.F., Kruyer, J.; *Chemical Engineering Science* 22, 1133-1145, 1967.

322 On the kinetics of carbon monoxide and methane formation during coal pyrolysis at temperatures in the range 570°-670°C. Berkowitz, N., Mullin, W.J.; American Chemical Society Division Fuel Chemistry, Symposium, Pittsburgh, March 1966, Prepr. 10(2), C110-120. 337 Fractionation and characterization of naturally occurring organo-clay complexes. Arshad, M.A., Lowe, L.E.; Soil Science Society of America, Proceedings, 30(6), 731-735, 1966.

323 The infrared spectra of carbon dioxide adsorbed on zeolite X. Ward, J.W., Habgood, H.W.; Journal of Physical Chemistry 70, 1178-1182, 1966. 338 The importance of the cations to adsorptive properties of the zeolites. Habgood, H.W.; Chemical Engineering Progress, Symposium Series 63(73), 45-49, 1967.

324 Biosynthesis of branched-chain fatty acids. IV. Factors affecting relative abundance of fatty acids produced by *Bacillus subtilis*. Kaneda, T.; Canadian Journal of Microbiology 12, 501-514, 1966. 339 Geochemistry of porphyrins. Hodgson, G.W., Baker, B.L., Peake, E.; Fundamental Aspects of Petroleum Geochemistry, B. Nagy and U. Columbo, editors, Chapter 5, 177-259, Elsevier Sequoia Press, Amsterdam, 1967.

325 A generalized method of numerical resistivity analysis. Bukhari, S.A., Lennox, D.H.; Geophysics 31(3), 625-626, 1966. 340 *Bison occidentalis* Lucas found at Taber. Bayrock, L.A., Tryllich, C.; Canadian Journal of Earth Sciences 3, 987-995, 1966.

326 Systematic evaluation of river regime. Neill, C.R., Galay, V.J.; American Society of Civil Engineering Conference on Water Resources Engineering, Denver, May 1966. Conference, Preparation 332, 46 pages. 341 Early natural history exploration. Hitchon, B.; W.G. Hardy, editor, Alberta - A Natural History, Chapter 13, 295-301, Hurtig Publishers, Edmonton, Alberta, 1967.

327 Freezing shrinkage in compacted clays. Hamilton, A.B.; Canadian Geotechnical Journal 3(1), 1-17, 1966. 342 Lower Cretaceous section Cadomin area, Alberta. Mellon, G.B.; Edmonton Geological Society, 8th Annual Fieldtrip Guidebook, 67-79, 1966.

328 A live snare and a tagging snare for rabbits. Keith, L.B.; Journal Wildlife Management 29(4), 877-880, 1965. 343 The origin of bands in the sandy soils of the Stony Plain area. Coen, G.M., Pawluk, S., Odynsky, W.; Canadian Journal of Soil Science 46(3), 245-247, 1966.

329 Geochemistry of natural gas in western Canada. Hitchon, B.; Natural Gases of North America, Volume II. American Association of Petroleum Geologists, Memoir 9, 1995-2025, 1968. 344 Tar Sands. Carrigy, M.A.; Encyclopedia of Earth Sciences, 1966.

330 Biosynthesis of branched-chain fatty acids. V. Microbial stereospecific syntheses of D-12-methyl-tetradecanoic and D-14-methylhexadecanoic acids. Kaneda, T.; Biochimica et Biophysica Acta 125, 43-54, 1966. 345 Evidence of shock metamorphism in rocks from the Steen River structure, Alberta. Carrigy, M.A.; Shock Metamorphism of Natural Materials, B.M. French and N.M. Short, editors, 367-378, 1968.

331 Fall and winter weights of Hungarian partridges and sharp-tailed grouse from Alberta. Keith, L.B.; Journal of Wildlife Management 26(3), 336-337, 1962. 346 The physical and chemical nature of typical tar sand: bulk properties and behavior. Carrigy, M.A.; Proceedings, 7th World Petroleum Congress, Mexico City, 573-581, 1967.

332 Mapping and interpretation of field phenomena for groundwater reconnaissance in a prairie environment, Alberta, Canada. Toth, J.; International Association of Scientific Hydrology, Bulletin 11(2), 1-49, 1966. 347 Recent orogenic uplift western Canada indicated by tilted glacial Lake Edmonton. Bayrock, L.A.; Proceedings, 22nd International Geological Congress, New Delhi, Section 16, 71-81, 1964.

333 Pipelines. Jensen, E.J., Ellis, H.S.; Scientific American 216(1), 62-72, 1967. 348 Ionization in hydrocarbon flames. Blades, A.T., Klemm, R.F.; Nature 212 (5065), 920-921, 1966.

334 A numerical analysis of surface diffusion in a binary adsorbed film. Round, G.F., Habgood, H.W., Newton, R.; Separation Science 1(2,3), 219-244. Appendix, 44 pages, 1966. 349 Alkanes in aqueous systems. The accommodation of C₁₂-C₃₆ n-alkanes in distilled water. Peake, E., Hodgson, G.W.; Journal of American Oil Chemists Society 44(12), 696-702, 1967.

335 Groundwater motion in drainage basins. Toth, J.; Encyclopedia of Earth Sciences, 1966. 350 Surficial geology between Edmonton and Cadomin near Highways 16 and 17. Bayrock, L.A., Williams, G.D.; Edmonton Geological Society, 8th Annual Fieldtrip Guidebook, 105-133, 1966.

336 Analysis and applications of the step-drawdown test. Lennox, D.H.; Journal of Hydraulics Division, American Society of Civil Engineers 92(6), 25-48, 1966. 351 Capsule pipelining - a challenge to Canadian initiative. Ellis, H.S., Liddle, R.T.; Canadian Transportation Research Forum, September 1967, 10 pages.

352 Comment on vacuum ultraviolet light emission in hydrocarbon-oxygen flames. Blades, A.T.; 9th Symposium on Combustion, 1189-1190, 1967.

353 Comment on origin of ions in hydrocarbon flames. Blades, A.T.; 11th Symposium on Combustion, Combustion Institute, 320, 1967.

354 Cleavage reactions of 4'-dimethylamino-2,2,2-tris-(p-dimethylaminophenyl)-acetophenone and a related compound. Sandin, R.B., Elofson, R.M., Schulz, K.F.; Canadian Journal of Chemistry 45, 203-206, 1967.

355 The role of porphyrins in geochemistry of petroleum. Hodgson, G.W., Baker, B.L., Peake, E.; proceedings, 7th World Petroleum Congress, Mexico City, 117-128, 1967.

356 Ionic exchange behaviour in a loam soil as indicated by movement of radio-calcium. Arshad, M.A., Carson, J.A.; Soil Science Society of America, Proceedings, 31(3), 321-324, 1967.

357 Capsule pipelining: a new concept for transporting bulk solids. Hodgson, G.W.; Science Affairs, Number 1, 18-21, 1967.

358 Systematic evaluation of river regime. Neill, C.R., Galay, V.J.; Journal of Waterways and Harbours Division, American Society of Civil Engineers 93(1), 25-53. Revision of Research Council of Alberta Contribution Series Number 326, 1967.

359 Cracking of asphalt pavements due to thermal effects. Anderson, K.O., Shields, B.P., Dacyszyn, J.M.; Proceedings, Association of Asphalt Paving Technologists 35, 247-262, 1966.

360 The electron spin resonance spectra of cellulose chars, treated with halogens: Evidence for donor-acceptor complexes in coals and chars. Elofson, R.M., Schulz, K.F.; American Chemical Society, Division of Fuel Chemistry, Preprint 11(2), 513-520, 1967.

361 Coal exploration program of the Research Council of Alberta. Campbell, J.D.; Canadian Institute of Mining and Metallurgical Bulletin 62(662), 663-678, 1967.

362 Indeterminate errors in the measurement of chromatographic peaks. Ball, D.L., Harris, W.E., Habgood, H.W.; Separation Science 2(1), 81-99, 1967.

363 Fatty acids in the genus *Bacillus*. I. Iso- and anteiso-fatty acids as characteristic constituents of lipids in ten species. Kaneda, T.; Journal of Bacteriology 93(3), 894-903, 1967.

364 Microfauna of the Cretaceous Alberta shale on the Deer Creek, International Boundary, Great Plains region. Wall, J.H.; Proceedings of Geological Association of Canada 18, 93-108, 1967.

365 The coal-carbon transformation: basic mechanisms. Berkowitz, N.; Proceedings, Symposium on Science and Technology of Coal, Ottawa, 149-155, 1967.

366 Geophysical exploration for buried valleys in an area north of Two Hills, Alberta. Lennox, D.H., Carlson, V.A.; Geophysics 32(2), 331-362, 1967.

367 Mean-velocity criterion for scour of coarse uniform bed-material. Neill, C.R.; Proceedings, 12th Congress International Association Hydraulic Research, 46-54, 1967.

368 The coal-ammonia-oxygen reaction: a route to coal-based nitrogenous fertilizers. Brown, H.M., Berkowitz, N.; American Institute of Civil Engineering, Chemical Engineering Progress Symposium Series 64(85), 89-97, 1968.

369 The $Hg_3(P_1)$ photosensitized decomposition of ethylenimine and ethylenimine-d₄. Klemm, R.F.; Canadian Journal of Chemistry 45, 1693-1698, 1967.

370 Paleoecology of Cretaceous marine microfaunas in the Rocky Mountain Foothills of Alberta and British Columbia. Wall, J.H.; Symposium, Paleoenvironments of the Cretaceous Seasway in the Western Interior, Golden, Colorado, 24 pages, 1967.

371 2,3-epoxysuccinic anhydride. Creighton, S.M., Mitchell, D.L.; Canadian Journal of Chemistry 45, 1304-1306, 1961.

372 Observed forms of bed roughness in an unstable gravel river. Galay, V.J.; Proceedings, 12th Congress, International Hydraulic Research, 85-94, 1967.

373 Catalytic isomerisation of cyclopropane to propylene over X- and Y-zeolites. Habgood, H.W., George, Z.M.; Conference on Molecular Sieves, London, 130-138, 1967.

374 Coal-based fertilizers by oxidative ammoniation of coal. Chakrabarty, S.K., Wood, J.C., Berkowitz, N.; Proceedings, Lignite Symposium, University of North Dakota, April 1967, U.S.; Bureau Mines, Information Circular 8376, 165-182.

375 A computer-oriented groundwater information storage and retrieval system. Turner, W.R.; Ground Water 5(4), 30-37, 1967.

376 The pipeline flow of capsules. Part 9. Analytical and experimental correlation of the velocity, pressure gradient and eccentricity of a cylinder carried along a pipe by a liquid in laminar flow. Kruyer, J., Redberger, P.J., Ellis, H.S.; Journal Fluid Mechanics 30(3), 513-531, 1967.

378 Catastrophic advance of the Steele Glacier, Yukon. Bayrock, L.A.; University of Alberta, Boreal Institute, Occasional Publication 3, 35 pages, 1967.

378 Trace elements in tills of Alberta. Bayrock, L.A., Pawluk, S.; Canadian Journal of Earth Sciences 4(4), 597-607, 1967.

379 Biosynthesis of long-chain hydrocarbons. I. Incorporation of L-valine, L-threonine, L-isoleucine and L-leucine into specific branched-chain hydrocarbons in tobacco. Kaneda, T.; Biochemistry 6, 2023-2032, 1967.

380 The relationship between structural stability and chemical criteria of some Solonetzic soils of northwestern Alberta. Reeder, S.W., Arshad, M.A., Odynsky, W.; *Canadian Journal of Soil Science* 47, 231-237, 1967.

381 The pipeline flow of paste-slugs. II. Pressure gradients and velocities of trains of slugs. Brown, R.A.S., Jensen, E.J.; *Canadian Journal of Chemical Engineers* 46, 157-161, 1968.

382 Geochronology of the Canadian Shield in northeastern Alberta. I. Andrew Lake area. Baadsgaard, H., Godfrey, J.D.; *Canadian Journal of Earth Sciences* 4(3), 541-563, 1962.

383 Mountains and plains. Green, R., Laycock, A.H.; W.G. Hardy, editor, *Alberta - A Natural History*, Chapter 4, 69-79, Hurtig Publishers, Edmonton, 1967.

384 Porphyrin abiogenesis from pyrrole and formaldehyde under simulated geochemical conditions. Hodgson, G.W., Baker, B.L.; *Nature* 216(5510), 29-32, 1967.

385 Transport of chemicals by pipeline: an exploratory study. Hodgson, G.W., Liddle, R.T.; *Engineering Journal* 50(11), 35-40, 1967.

386 Modification of a gas chromatograph for subambient temperature control. Dammeyer, W.; *Analytical Chemistry* 39(11), 1339, 1967.

387 Spectra of selected geochemically significant porphyrins and chlorins. Hodgson, G.W., Baker, B.L.; *Chemical Geology* 2, 187-198, 1967.

388 Chlorins in recent marine sediments on the North Atlantic continental shelf off Nova Scotia, Canada. Baker, B.L., Hodgson, G.W.; *Chemical Geology* 3, 119-133, 1968.

389 Drawdowns due to cyclic pumping. Lennox, D.H., Vandenberg, A.; *Journal Hydraulics Division, American Society of Civil Engineering* 43(6), 35-51, 1967.

390 Coal research in Canada, 1966. Berkowitz, N.; *Canadian Mining and Metallurgical Bulletin* 60(666), 1158-1163, 1967.

391 Some spectral observations on two coking lignites. Elofson, R.M., Schulz, K.F.; *American Chemical Society, Division Fuel Chemistry, Preprint 154th meeting, Chicago, Illinois, September 1970*, 259-263.

392 Fertilizers from coal. Berkowitz, N., Wood, J.C.; (*Proceedings, 19th Dominion-Provincial Conference on Coal, Regina, Saskatchewan, August 29-31, 1967*). *Proceedings, Saskatchewan Industrial Exposition Mineral Symposium, Regina, Saskatchewan, August 27 - September 1, 1967: Index '67*, 136-145.

393 Capsule pipelining - 1967 and beyond. Jensen, E.J.; *Proceedings, Saskatchewan Industrial Exposition Mineral Symposium, Regina, Saskatchewan, August 27-September 1, 1967: Index '67*, 530-536.

394 Safe yield of well-field in a leaky artesian strip aquifer. Vandenberg, A., Lennox, D.H.; *Ground Water* 6(2), 30-36, 1968.

395 Groundwater in sedimentary (clastic) rocks. Toth, J.; *Proceedings, National Symposium, Ground-water Hydrology, San Francisco, November 1967, American Water Resources Association*, 91-102.

396 Some sedimentary features of the Athabasca oil sands. Carrigy, M.A.; *Sedimentary Geoogy* 1, 327-352, 1967.

397 The mineralogical composition of an area of Precambrian Shield in northeastern Alberta. Godfrey, J.D., Watanabe, R.Y.; *Proceedings, 22nd International Geological Congress, New Delhi, 1968*.

398 Fossil sand wedges at Edmonton, Alberta, Canada. Berg, T.; *Biuletyn Peryglacjalny*, No. 19, 325-333, 1969.

399 Integration of geophysical methods for groundwater exploration in the prairie provinces, Canada. Lennox, D.H., Carlson, V.A.; *Proceedings, Canadian Centennial Conference on Mining and Groundwater Geophysics, Niagara Falls, Ontario, October 1967*, 19 pages.

400 Effects of scale-up on the performance of cylindrical capsules flowing in horizontal pipelines. Ellis, H.S.; *Proceedings, American Society of Mechanical Engineers Petroleum Mechanical Engineering Conference, Philadelphia, September 1967*, 11 pages.

401 Errors in manual integration techniques for chromatographic peaks. Ball, D.L., Harris, W.E., Habgood, H.W.; *Journal of Gas Chromatography* 5, 613-620, 1967.

402 Mechanisms of coal pyrolysis. VIII. The isothermal disengagement of CO and CH₄ in the range of 570°-670°C. Mullin, W.J., Berkowitz, N.; *Fuel* 47(1), 63-78, 1968.

403 Deriving contour maps from geological data. Newton, R.; *Canadian Journal of Earth Sciences* 5, 165-166, 1966.

404 Experimental evaluation of indeterminate error in height-width and height only measurements of chromatographic peaks. Ball, D.L., Harris, W.E., Habgood, H.W.; *Analytical Chemistry* 40, 129-134, 1968.

405 Biosynthesis of long-chain hydrocarbons. II. Studies on the biosynthetic pathway in tobacco. Kaneda, T.; *Biochemistry* 7(3), 1194-1202, 1968.

406 Tracer studies of the isomerization of cyclopropane over a deuterated zeolite catalyst. Bartley, B.H., Habgood, H.W., George, Z.M.; *Journal of Physical Chemistry* 72, 1689-1696, 1968.

407 Chemi-excitation in flames and the heat of oxidation. Blades, A.T.; *Combustion and Flame* 12(2), 174-176, 1968.

408 Controlling gas production from a deep groundwater testhole near Red Deer, Alberta. Turner, W.R.; *Johnson Drillers Journal* 40(2), 8-9, 1968.

409 Fatty acids in the genus *Bacillus*. II. Similarity in the fatty acid compositions of *Bacillus thuringiensis*, *B. anthracis* and *B. cereus*. Kaneda, T.; *Journal of Bacteriology* 95(6), 2210-2216, 1968.

410 Selection of optimum position for measuring widths of chromatographic peaks with minimum error in area. Ball, D.L., Harris, W.E., Habgood, H.W.; *Analytical Chemistry* 40(7), 1113-1116, 1968.

411 Bed forms in the Lower Red Deer River, Alberta. Neill, C.R.; *Journal of Hydrology* 7, 58-85, 1969.

412 Geochemistry of porphyrins, chlorins and polycyclic aromatics in sediments and sedimentary rocks. Hodgson, G.W., Hitchon, B., Taguchi, K., Baker, B.L., Peake, E.; *Geochimica et Cosmochimica Acta* 32, 737-772, 1968.

413 On the relationship between chemical structure and coking properties of coal. Berkowitz, N.; *Journal of the Fuel Society of Japan* 47(499), 801-810, 1968.

414 Spectroscopic evidence for Bronsted acidity in partially dehydrated group forms of zeolites X and Y. Watanabe, R.Y., Habgood, H.W.; *Journal of Physical Chemistry* 72, 3066-3069, 1968.

415 Coal research in Canada - 1967. Berkowitz, N.; *Canadian Mining and Metallurgical Bulletin* 61, 989-994.

416 Vertical movements and crack-width changes on highway pavement surfaces. Rix, H.H.; *Canadian Geotechnical Journal* 6(3), 253-270, 1969.

417 On the chemistry of the coal-ammonia-oxygen reaction. Chakrabarty, S.K., Berkowitz, N.; *Fuel* 48(2), 151-160, 1969.

418 Thermal reactions of propylene oxide. Blades, A.T.; *Canadian Journal of Chemistry* 46, 3283-3284, 1968.

419 Rock volume and pore volume data for plains region of western Canada sedimentary basin between latitudes 49 degrees and 60 degrees north. Hitchon, B.; *American Association of Petroleum Geologists, Bulletin* 52(12), 2318-2323, 1968.

420 Geochemistry and origin of formation waters in the western Canada sedimentary basin. Part II. Alkali metals. Billings, G.K., Hitchon, B., Shaw, D.R.; *Chemical Geology* 4, 211-223, 1969.

421 Fluid flow in the western Canada sedimentary basin. Part I. Effect of topography. Hitchon, B.; *Water Resources Research* 5(1), 186-195, 1969.

422 Fluid flow in the western Canada sedimentary basin. Part II. Effect of geology. Hitchon, B.; *Water Resources Research* 5(2), 460-469, 1969.

423 Determination of actual forces on bridge piers due to moving ice. Sanden, E.J., Neill, C.R.; *Proceedings, 49th Annual Convention of Canadian Good Roads Association*, Edmonton, Alberta, 13 pages, 1968.

424 Major element composition of the Mackenzie River at Norman Wells, N.W.T., Canada. Levinson, A.A., Hitchon, B., Reeder, S.W.; *Geochimica et Cosmochimica Acta* 33, 133-138, 1969.

425 Pipeline. Jensen, E.J., Ellis, H.S.; 1969 *Yearbook of Science and Technology*, McGraw-Hill Book Company, 271-274.

426 Quantitative definition of beginning of bed movement. Neill, C.R., Yalin, M.S.; *Journal of Hydraulics Division, American Society of Civil Engineers* 95, 585-588, 1969.

427 The origin of petroleum porphyrins: preliminary evidence for protein fragments associated with porphyrins. Hodgson, G.W., Flores, J., Baker, B.L.; *Geochimica et Cosmochimica Acta* 33(4), 532-535, 1969.

428 Iterative analysis: bounded leaky artesian aquifer. Bukhari, S.A., VandenBerg, A., Lennox, D.H.; *Journal Irrigation and Drainage Division of American Society of Civil Engineers* 95, 1-14, 1969.

429 Kinetics of the thermal decomposition of cyclobutanone. Blades, A.T.; *Canadian Journal of Chemistry* 47, 615-617, 1969.

430 Trace porphyrin complexes: fluorescence detection by demetallation with methanesulfonic acid. Hodgson, G.W., Peterson, E., Baker, B.L.; *Mikrochimica Acta* 805-814, 1969.

431 Fatty acids in *Bacillus larvae*, *Bacillus lentimorbus* and *Bacillus popilliae*. Kaneda, T.; *Journal of Bacteriology* 98, 143-146, 1969.

432 The reactions of discharge-generated hydrogen species with coals and carbons. I. Primary reaction products and kinetics. Berkowitz, N., Sanada, Y.; *Fuel* 43, 375-388, 1969.

433 Porphyrins in meteorites: metal complexes in Orgueil, Murray, Cold Bokkeveld and Mokoia carbonaceous chondrites. Hodgson, G.W., Baker, B.L.; *Geochimica et Cosmochimica Acta* 33, 943-958, 1969.

434 Substituent effects in the polarography of aromatic diazonium salts. Elofson, R.M., Gadallah, F.F.; *Journal of Organic Chemistry* 34(4), 854-857, 1969.

435 Hunting activities and success of lynxes in Alberta. Keith, L.B., Nellis, C.H.; *Journal Wildlife Management* 32(4), 718-722, 1968.

436 Trap response by snowshoe hares. Keith, L.B., Meslow, E.C.; *Journal Wildlife Management* 32(4), 795-801, 1968.

437 Techniques for snowshoe hare population studies. Keith, L.B., Meslow, E.C., Rongstad, O.J.; *Journal Wildlife Management* 32(4), 801-812, 1968.

438 Demographic parameters of a snowshoe hare population. Keith, L.B., Meslow, E.C.; *Journal Wildlife Management* 32(4), 812-834, 1968.

439 Sulfur fractions of selected Alberta profiles of the Gleysolic order. Lowe, L.E.; *Canadian Journal of Soil Science* 49(3), 375-381, 1969.

440 A simple cell for preparation of electrolytes. Penzes, S.; *Journal of Chemical Education* 47, 138, 1970.

441 Coenzyme A- and nicotinamide adenine dinucleotide-dependent branched chain alphaketo acid dehydrogenase. I. Purification and properties of the enzyme from *Bacillus subtilis*. Kaneda, T., Namba, Y., Yoshizawa, K., Ejima, A., Hayashi, T.; *Journal of Biological Chemistry* 244(16), 4437-4447, 1969.

442 Hydrocarbons in spinach: two distinctive carbon ranges of aliphatic hydrocarbons. Kaneda, T.; *Phytochemistry* 8, 2039-2044, 1969.

443 Micromorphology as a tool in Quaternary research. Dumanski, J.; *Proceedings, Pedology and Quaternary Research Symposium, Edmonton, Alberta*, 39-52, 1969.

444 Distribution and properties of organic fractions in selected Alberta soils. Lowe, L.E.; *Canadian Journal of Soil Science* 49, 129-141, 1969.

445 A new non-protein nitrogen source for ruminants. Wood, J.C., Kay, W.C., Chakrabarty, S.K.; *Canadian Journal Animal Science* 49, 135-141, 1969.

446 A structural investigation of the constituents of Athabasca bitumen by proton magnetic resonance spectroscopy. Speight, J.G.; *Fuel* 49(1), 76-90, 1970.

447 On the agrobiological activity of oxidatively ammoniated coal. Berkowitz, N., Chakrabarty, S.K., Cook, F.D., Fujikawa, J.I.; *American Chemical Society, Division Fuel Chemistry, Preprint* 13(4), 158th meeting, New York, 223-235, 1969.

448 Coal research and development in Canada - 1968. Berkowitz, N.; *Canadian Mining and Metallurgical Bulletin* 62, 980-985.

449 On the probable environmental effects of coal mining and combustion in western Canada. Berkowitz, N.; *Proceedings, 21st Canadian Conference on Coal, Calgary, Alberta*, 12 pages, 1969.

450 Thermal cracking of Athabasca bitumen, Athabasca asphaltenes, and Athabasca deasphalting heavy oil. Speight, J.G.; *Fuel* 49, 134-145, 1970.

451 Geochemistry and origin of formation waters in the western Canada sedimentary basin. I. Stable isotopes of hydrogen and oxygen. Hitchon, B., Friedman, I.; *Geochimica et Cosmochimica Acta* 33, 1321-1349, 1969.

452 Polarography of thioketones. Elofson, R.M., Gadallah, F.F., Gadallah, L.A.; *Canadian Journal of Chemistry* 47, 3979-3982, 1969.

453 Arylation of aromatic compounds by electrochemical reduction of benzenediazonium tetrafluoroborate in aprotic solvents. Gadallah, F.F., Elofson, R.M.; *Journal of Organic Chemistry* 34(11), 3335-3338, 1969.

454 Subsurface gypsum deposits near Fort McMurray, Alberta. Hamilton, W.N.; *Canadian Mining and Metallurgical Bulletin* 6(691), 1193-1202, 1969.

455 The interaction of mercury 6(3P1) atoms with noble gas atoms. Gunning, H.E., Penzes, S., Sandhu, J.S., Strausz, O.P.; *Journal of American Chemical Society* 91(27), 7684-7699, 1969.

456 Polyphenylenes from aromatic monomers and catalyst-oxidant systems. Kovacic, P., Speight, J.G.; *Newer Polymerisation Reactions*, J. Heller, editor, Marcel Dekker Inc., 18 pages, 1969.

457 Discussion of the paper: Two-phase eccentric interface laminar pipeline flow. Kruyer, J., Bentwich, M., Kelly, D.A., Epstein, N.; *American Society Mechanical Engineers, Journal Basic Engineering* 93, 35, 1970.

458 Auto-oxidation of terakis-(p-dimethylaminophenyl)-ethylene. Elofson, R.M., Schulz, K.F., Sandin, R.B.; *Canadian Journal of Chemistry* 47, 4447-4454, 1969.

459 Some climatological characteristics of hailfall in central Alberta. Summers, P.W., Paul, A.H.; *Proceedings, 5th Conference on Severe Local Storms, American Meteorological Society, St. Louis, Missouri*, 315-324, 16 pags, 1967.

460 Soft hail in Alberta hailstorms. Summers, P.W.; *Proceedings, International Conference on Cloud Physics, Toronto, Canada*, 455-459, 5 pages, 1968.

461 A conceptual method of the groundwater regime and the hydrogeological environment. Toth, J.; *Journal of Hydrogeology* 10, 164-176, 1970.

462 Regional variations of river water composition resulting from halite solution, Mackenzie River Drainage basin, Canada. Hitchon, B., Levinson, A.A., Reeder, S.W.; *Water Resources Research* 5(6), 1395-1403, 1969.

463 Notes from the field tour in conjunction with the symposium, May 14, 1969. Pawluk, S., Dumanski, J.; *Proceedings, Pedology and Quaternary Research Symposium, Edmonton, Alberta*, 187-199.

464 Groundwater movement and its possible effects on soil. Toth, J.; *Proceedings, Pedology and Quaternary Research Symposium, Edmonton, Alberta*, 200-218, 1969.

465 Ice pressure on bridge piers in Alberta, Canada. Neill, C.R.; *Proceedings, Ice Symposium, International Association of Hydraulic Research, Reykjavik, Iceland*, 8 pages, 1970.

466 Some spectral observations on coking lignites. Elofson, R.M., Schulz, K.R.; *Spectrometry of Fuels*, Plenum Press, 202-207, 1970.

467 Geographic zonation in selected characteristics of surface mineral horizons in Alberta soils. Dumanski, J., Newton, R., Lindsay, J.D.; *Canadian Journal of Soil Science* 50(2), 131-139, 1970.

468 An investigation of low temperature transverse cracking of flexible pavements. Shields, B.P., Anderson, K.O., Dacyszyn, J.M.; *Proceedings, 50th Annual Convention of the Canadian Good Roads Association, Edmonton, Alberta*, 273-308, 1967.

469 Objectives in fuel research. Berkowitz, N.; *Proceedings, North American Fuel Technology, Ottawa, Ontario*, 10.1-10.14, 14 pages, 1970.

470 Relations between electric analogue, patterns of groundwater flow and accumulation of hydrocarbons. Toth, J.; Canadian Journal of Earth Science 7(3), 988-1007, 1970.

471 Reactions of iodonium nitrate with some alcohols. Diner, U.E.; Journal of Chemical Society C.5, 676-677, 1970.

472 Vilna meteorite-camera, visual, seismic and analytic records. Folinsbee, R.E., Bayrock, L.A., Cumming, G.L., Smith, D.G.W.; Royal Astronomical Society of Canada Journal 63(2), 61-86, 1969.

473 Reaction of iodonium nitrate with alkenes. Diner, U.E., Lown, J.W.; Chemical Communications 6, 333-334, 1970.

474 Experiments on angles of repose of granular materials. Carrigy, M.A.; Sedimentology 14, 147-158, 1970.

475 Mechanism of the catalytic isomerization of cyclopropane over Bronsted acid catalysts. George, Z.M., Habgood, H.W.; Journal of Physical Chemistry 74, 1502-1508, 1970.

476 Effects of micropores on peak shape and retention volume in gas-solid chromatography. Habgood, H.W., MacDonald, W.R.; Analytical Chemistry 42(4), 543-546, 1970.

477 Asymmetric syntheses of optically active alpha-amino acids by hydrocyanic acid addition to the optically active Schiff base. Patel, M.S., Worsley, M.; Canadian Journal of Chemistry 48(12), 1881-1884, 1970.

478 Glacier. Bayrock, L.A.; 1970 Yearbook of Science Technology, McGraw-Hill Book Co., 202-204, 1970.

479 Catalytic properties of synthetic pentapeptides. Moschopedis, S.E., Photaki, I.; Experientia 25, 903-905, 1969.

480 Synthesis and properties of polyphenyls and polyphenylenes. Speight, J.G., Kovacic, P., Koch, F.W.; Journal of Macromolecular Science, Revised Macromolecular Chemistry Chapter 5(2), 295-386, 1971.

481 The reactions of Athabasca asphaltenes and heavy oil with metal chlorides. Speight, J.G.; Fuel 50, 175-186, 1971.

482 Proposed revision of the boundaries of the Paskapoo formation in the Alberta Plains. Carrigy, M.A.; Bulletin of Canadian Petroleum Geology 18(2), 156-165, 1970.

483 On the agrobiological activity of oxidatively ammoniated coal. Berkowitz, N., Chakrabarty, S.K., Cook, F.D., Fujikawa, J.I.; Soil Science 110(3), 211-217, 1970.

484 The halogenation of Athabasca asphaltenes with elemental halogen. Speight, J.G., Moschopedis, S.E.; Fuel 50(1), 58-64, 171.

485 The pipeline flow of capsules. 10. Empirical pressure and velocity correlations for cylindrical capsules conveyed in pipelines up to four inches in diameter. Ellis, H.S., Kruyer, J.; 1st International Conference on the Hydraulic Transport of Solids in Pipes, Warwick, England, C2-29 - C2-43, 1970.

486 The Arrhenius factors for some six-center unimolecular reactions. Blades, A.T., Sandhu, H.S.; International Journal of Kinetics 3, 187-193, 1971.

487 Introduction of halogen into asphaltenes via the Gomberg reaction. Moschopedis, S.E., Speight, J.G.; Fuel 49, 335, 1970.

488 The response of carbon disulphide in a flame ionization detector. Blades, A.T.; Journal Chromatographic Science 8(7), 414-415, 1970.

489 Run off routing through steep natural channels. Kellerhals, R.; Journal Hydraulic Division, American Society of Civil Engineering 96, 2201-2217, 1970.

490 Stream gauging with portable equipment. Kellerhals, R., Church, M.; International Association of Scientific Hydrology, Symposium on Hydrometry, 19 pages, 1970.

491 Sulphomethylation of humic acids, lignites and coals. Moschopedis, S.E.; Fuel 49, 336-338, 1970.

492 Photolysis of cyclopentanone. Blades, A.T.; Canadian Journal of Chemistry 48(14), 2268-2273, 1970.

493 Capsule pipelining - feasibility assessment. Jensen, E.J., Bruce, J.G.; 1st International Conference on Hydraulic Transport of Solids in Pipes, Warwick, England, C1-1 - C1-27, 1970.

494 Coal research and development in Canada - 1969. Berkowitz, N.; Canadian Mining and Metallurgical Bulletin 63(702), 1203-1209.

495 Water-soluble derivatives of Athabasca asphaltenes. Moschopedis, S.E., Speight, J.G.; Fuel 50(1), 34-39, 1971.

496 The production of delta 10 monounsaturated fatty acids by *Bacillus cereus*. Kaneda, T., Dart, R.K.; Biochimica et Biophysica Acta: Lipids and Lipid Metabolism 218(2), 189-194, 1970.

497 Liquid phase photolysis of cyclobutanone. Klemm, R.F.; Canadian Journal of Chemistry 48(21), 3320-3323, 1970.

498 Addition of iodonium nitrate to unsaturated hydrocarbons. Diner, U.E., Lown, J.W.; Canadian Journal of Chemistry 49(3), 403-415, 1971.

499 Incorporation of branched-chain C6-fatty acid isomers into the related long-chain fatty acids by growing cells of *Bacillus subtilis*. Kaneda, T.; Biochemistry 10(2), 340-347, 1970.

500 Two unusual hailstones. Rogers, L.N.; Bulletin of American Meteorological Society 52(10), 994-995, 1971.

501 The reactions of discharge-generated hydrogen species with coals and carbons. II. Compositions and properties of partially reacted solids. Berkowitz, N., Kobayashi, K.; *Fuel* 50, 254-271, 1971.

502 Treatment of ilmenite ore in a plasma jet reactor. Brown, R.A.S.; *Canadian Metallurgical Quarterly* 10(1), 47-55, 1971.

503 Deltaic sedimentation in Athabasca tar sands. Carrigy, M.A.; *American Association of Petroleum Geologists, Bulletin* 55(8), 1155-1169, 1971.

504 Factors affecting the relative ratio of fatty acids in *Bacillus cereus*. Kaneda, T.; *Canadian Journal of Microbiology* 17(2), 269-275, 1971.

505 Structural analysis of Athabasca asphaltenes by proton magnetic resonance spectroscopy. Speight, J.G.; *Fuel* 50, 102-112, 1971.

506 Scavenging of SO₂ by convective storms in Alberta. Summers, P.W.; *Precipitation Scavenging*, 1970, Atomic Energy Commission Symposium Series, 305-318.

507 Microfauna from the Upper Cretaceous Bearpaw formation of south-central Alberta. Wall, J.H., Given, M.M.; *Bulletin, Canadian Petroleum Geology* 19(2), 502-544, 1971.

508 Homolytic arylation of pyridine and pyridine N-oxide and the effect of localization energy and temperature on arylation patterns. Elofson, R.M., Gadallah, F.F., Schulz, K.F.; *Journal of Organic Chemistry* 36, 1526-1531, 1971.

509 Mounds (humpies) in the Peace River area of Alberta. Odynsky, W.; *Canadian Journal of Soil Science* 51, 132-135, 1971.

510 The application of spectroscopic techniques to the structural analysis of coal and petroleum. Speight, J.G.; *Applied Spectroscopy Review* 5(2), 211-263, 1971.

511 Infrared studies of the adsorption and surface reactions of hydrogen sulfide and sulfur dioxide on some aluminas and zeolites. Habgood, H.W., Deo, A.V., DallaLana, I.G.; *Journal of Catalysis* 21(3), 270-281, 1971.

512 Hydrodynamics and hydrocarbon occurrences, Surat Basin, Queensland, Australia. Hitchon, B., Hays, J.; *Water Resources Research* 7(3), 658-676, 1971.

513 Origin of oil: geological and geochemical constraints. Hitchon, B.; *Origin and Refining of Petroleum*, American Chemical Society, Washington, D.C., 30-66, 1971.

514 Major occurrence of cis-delta-5 fatty acids in three psychrophilic species of *Bacillus*. Kaneda, T.; *Biochemical and Biophysical Research Communications* 43(2), 298-302, 1971.

515 Coal, sulfomethylated coal and sulfonated coal as fertilizers for Solonetz soil. Cairns, R.R., Moschopedis, S.E.; *Canadian Journal of Soil Science* 51(1), 59-63, 1971.

516 Factors controlling the level of Lake Athabasca. Kellerhals, R.; *Proceedings, Peace-Athabasca Symposium*, Edmonton, 52 pages, 1971.

517 Sampling procedures for coarse fluvial sediments. Kellerhals, R., Bray, D.I.; *Journal of Hydraulics Division, Proceedings, American Society of Civil Engineers* 97(8), 1165-1180, 1971.

518 The structure of Athabasca asphaltenes and the conversion of these materials to useful by-products. Speight, J.G.; *American Chemical Society, Division of Fuel Chemistry and Petroleum Chemistry, Symposium on Oil Shale, Tar Sands, and Related Materials*, Los Angeles, California, 27 pages, 1971.

519 High temperature mass spectroscopy of Athabasca asphaltenes and the relationship to cracking processes. Speight, J.G.; *American Chemical Society, Division of Fuel Chemistry and Petroleum Chemistry, Symposium on Oil Shale, Tar Sands, and Related Materials*, Los Angeles, California, 12 pages, 1971.

520 Geochemistry and origin of formation waters in the western Canada sedimentary basin. III. Factors controlling chemical composition. Hitchon, B., Billings, G.K., Klovan, J.E.; *Geochimica et Cosmochimica Acta* 35(6), 567-598, 1971.

521 Oxidative degradation of Athabasca asphaltenes. Moschopedis, S.E., Speight, J.G.; *Fuel* 50, 211-217, 1971.

522 Synthesis of beta-poly-alpha-ethyl-L-aspartate. Moschopedis, S.E., Mumford, C.; *Canadian Journal of Chemistry* 49(12), 2158-2160, 1971.

523 An algorithm for least squares analysis of drawdown in observation wells. VandenBerg, A.; *Journal of Hydrology* 14, 1-18, 1971.

524 Properties of caking coals: destruction of caking propensities by boron trifluoride. Chakrabarty, S.K., Berkowitz, N.; *Fuel* 51(1), 44-46, 1972.

525 Groundwater discharge: a common generator of diverse geologic and morphologic phenomena. Toth, J.; *Bulletin of the International Association of Scientific Hydrology*, 16, 7-24, 1971.

526 Unique soils of the Foothills region, Hinton, Alberta. Dumanski, J., Pawluk, S.; *Canadian Journal of Soil Sciences* 51(3), 351-362, 1971.

527 On some other uses of western Canada coals. Berkowitz, N.; *22nd Annual Technical Meeting, Canadian Institute of Mining and Metallurgical Petroleum Society*, Banff, Alberta, June 1971, 7 pages.

528 Capsule pipelining - 1971 status and perspective. Jensen, E.J.; *Proceedings, Saskatchewan Industrial Exposition and Mineral Symposium*, Saskatoon, Saskatchewan, 13 pages, 1971.

529 Development of seedling containers with a removable casing. Mitchell, D.L., Kay, W.C., Wood, J.C., Sacuta, A., Creighton, S.M., Worsley, M.; *Inland Empire Reforestation Council, Fall Meeting*, Edmonton, Alberta, 6 pages, 1970.

530 The Pschorr reaction by electrochemical generation of free radicals. I. Phenanthrene synthesis. Elofson, R.M., Gadallah, F.F.; *Journal of Organic Chemistry* 36(13), 1769-1771, 1971.

531 Low temperature coking of petroleum asphaltenes. Moschopedis, S.E., Speight, J.G.; *Fuel* 50, 332-333, 1971.

532 Managing snow accumulation and melt under leafless aspen to enhance water-shed value. Swanson, R., Stevenson, D.; *Proceedings, 39th Annual Western Snow Conference, Billings, Montana*, 63-69, 1971.

533 River bed transport related to meander migration rates. Neill, C.R.; *Journal of the Waterways, Harbors and Coastal Engineering Division, Proceedings, American Society of Civil Engineering* 97(WW4), 781-796, 1971.

534 Composition of gas condensate in Alberta. Gawalak, M.; *Gas Processing/Canada*, 64, 26-36, 1971.

535 The hydrocarbon-induced fluorescence of atoms in flames. Blades, A.T.; *Canadian Journal of Chemistry* 49(15), 2476-2480, 1971.

536 Comments on: An improved method for size distribution of stream bed gravel. Kellerhals, R., Leopold, L.B., Bray, D.I.; *Water Resources Research* 7(4), 1045-1047, 1971.

537 Sediment transport measurements in gravel river. Hollingshead, A.B.; *Journal of Hydraulics Division, American Society Civil Engineers* 97(HY11), 1817-1834, 1971.

538 Some Alberta experience with penetration-graded asphalt cements having differing viscosities at 140°F. Shields, B.P., Anderson, K.O.; *Highway Resources Record Number 350*, 15-25, 1971.

539 Reaction of iodonium nitrate with some olefinic alcohols. Diner, U.E., Worsley, M., Lown, J.W.; *Journal of Chemical Society*, 3131-3136, 1971.

540 Radar reflectivity profiles of individual cells in a persistent multicellular Alberta hailstorm. Renick, J.H.; *Proceedings, 7th Conference on Severe Local Storms, American Meteorological Society, Kansas City, Missouri*. October 1971, 8 pages.

541 The economic impact of hail damage in Alberta, Canada, and its dependence on various hailfall parameters. Summers, P.W., Wojtiw, L.; *Proceedings, 7th Conference on Severe Local Storms, American Meteorological Society, Kansas City, Missouri*, October 1971, 6 pages.

542 The deterioration of caking properties during prolonged agitation of coal in water. Parkash, S., Szladow, A.J., Berkowitz, N.; *Canadian Mining and Metallurgical Bulletin* 64(715), 92-94, 1971.

543 A droppable pyrotechnic flare system for seeding hailstorms. Summers, P.W., Mather, G.K., Treddenick, D.S.; *Proceedings, International Conference on Weather Modification, Canberra, Australia, September 1971*, 6 pages.

544 Case studies of the physical effects of seeding hailstorms in Alberta. Summers, P.W., Renick, J.H.; *Proceedings, International Conference on Weather Modification, Canberra, Australia, September 1971*, 6 pages.

545 Deterioration of coal storage and transportation. Berkowitz, N.; *Proceedings, International Symposium on Transport and Handling of Minerals, Vancouver, British Columbia*, 154-173, 1971.

546 Studies on structures of coals. I. The nature of aliphatic groups. Chakrabarty, S.K., Kretschmer, H.O.; *Fuel* 51(2), 160-163, 1972.

547 Tectonic control of morphology on the Canadian interior plains. Ozoray, G.F.; *Proceedings, 22nd International Geographical Congress, Montreal, Quebec*, 51-54, 1972.

548 Properties and manifestations of regional ground-water movement. Toth, J.; *Proceedings, 22nd International Geographical Congress, Montreal, Quebec*, 153-263, 1972.

549 Small computer application to direct processing of data from analytical equipment used in soil laboratories. Redberger, P.J., McGill, W.B., Dumanski, J.; *Canadian Journal of Soil Science* 52(2), 285-287, 1972.

550 Source and budget of sulphate in precipitation from central Alberta, Canada. Hitchon, B., Summers, P.W.; *Proceedings, Annual Meeting, Pacific Northwest International Section Air Pollution Control Association, Calgary, Alberta, November 1971, Paper 71-AP-16*, 7 pages.

551 Paleoecology of the Bearpaw and contiguous Upper Cretaceous formations of the C.P.O.G.; Strathmore well, southern Alberta. Wall, J.H., Sweet, A.R., Hills, L.V.; *Bulletin Canadian Petroleum Geology* 19(3), 691-702, 1971.

552 Structural control of morphology in Alberta. Ozoray, G.F.; *Alberta Geographer* 8, 35-42, 1972.

553 Alternate solutional and nonsolutional effects in cavern genesis. Ozoray, G.F.; *Proceedings for the 22nd International Geographical Congress, Montreal, Quebec*, 1327-1328, 1972.

555 Hydrogeochemistry of the surface waters of the Mackenzie River drainage basin, Canada. I. Factors controlling inorganic composition. Hitchon, B., Reeder, S.W., Levinson, A.A.; *Geochimica et Cosmochimica Acta* 36, 825-865, 1972.

556 Positional distribution of fatty acids in phospholipids from *Bacillus subtilis*. Kaneda, T.; *Biochimica et Biophysica Acta* 270, 32-39, 1972.

557 Reforestation with tree seedlings grown in extruded peat cylinders. I. Mechanical aspects of the process. Mitchell, D.L., Hocking, D., Kay, W.C.; *Transactions, American Society of Agricultural Engineers* 15(1), 36-39, 1972.

558 Force fluctuations during ice-floe impact on piers. Neill, C.R.; International Association of Hydraulic Research Symposium on Ice Problems, Leningrad, U.S.S.R., September 1972, 44-50. 571

559 On the nature of benzene diazonium complex with pyridine. Elofson, R.M., Ozubko, R., Gadallah, F.F.; Journal of Organic Chemistry, 1972. 572

560 The development and testing of an airborne dropable pyrotechnic flare system for seeding Alberta hailstorms. Summers, P.W., Mather, G.K., Treddenick, D.S.; Journal of Applied Meteorology 11(4), 695-703, 1972. 573

561 Low molecular weight aromatic hydrocarbons in gas condensates from Alberta, Canada. Hitchon, B., Gawlak, M.; *Geochimica et Cosmochimica Acta* 36(9), 1043-1059, 1972. 574

562 A gas chromatographic method for the determination of mass-transfer resistances in zeolite catalysts. MacDonald, W.R., Habgood, H.W.; Canadian Journal of Chemical Engineering 30(4), 462-469, 1972. 575

563 Use of a simple technique for determining the location of silver iodide particles in hail. Rogers, L.N.; Journal of Applied Meteorology 11(4), 745-748, 1972. 576

564 Pressure and couette flow in a capsule-pipe system: experimental verification. Kruyer, J., Garg, V.K.; Hydrotransport II. British Hydromechanics Research Association Conference, Cranfield, England, F3-25-F3-36, 1972. 577

565 Some effects of fitting cylindrical pipeline capsules with collars or runners. Ellis, H.S., Kruyer, J.; Hydrotransport II. British Hydromechanics Research Association Conference, Cranfield, England, F4-31-F4-52, 1972. 578

566 Low pressure gradients in capsule pipelines: Initial results from a 4-inch experimental pipeline. Kruyer, J.; Hydrotransport II. British Hydromechanics Research Association Conference, Cranfield, England, F2-13-F2-24, 1972. 579

567 Small plant PVC economics. Brown, R.A.S.; American Association of Cost Engineers Annual Meeting, 86-91, 1972. 580

568 Hydrogeochemistry of the surface waters of the Mackenzie River drainage basin, Canada. III. Stable isotopes of oxygen, carbon and sulphur. Hitchon, B., Krouse, H.R.; *Geochimica et Cosmochimica Acta* 36, 1337-1357, 1972. 581

569 Hydrogeology of the Rocky Mountains and interior plains, Guidebook to Excursion A26. Toth, J., Cherry, J.A., vanEverdingen, R.O., Meneley, W.A.; Proceedings, 24th International Geological Congress, Montreal, Quebec, 1-42, 1972. 582

570 Isothermal and adiabatic fixed-bed adsorbers. Pan, C.Y.; Canadian Gas Journal 65(2), 34-48, 1972. 583

571 A novel asymmetric synthesis of alpha-amino-acids from nitriles employing diisopinocamphenylborane as a chirel agent. Diner, U.E., Worsley, M., Lown, J.W., Forsythe, J.A.; *Tetrahedron Letters* 31, 3145-3148, 1972.

572 Positional preference of fatty acids in phospholipids of *Bacillus cereus* and its relation to growth temperature. Kaneda, T.; *Biochimica et Biophysica Acta* 280, 297-305, 1072.

573 The modern scope of hydrogeology. Toth, J.; *Indian Geohydrology* 8(1), 23-40, 1972.

574 Reforestation with tree seedlings grown in extruded peat cylinders. III. Evaluation of conifer planting trials. Mitchell, D.L., Kay, W.C.; *Proceedings, 4th International Peat Congress, Helsinki, Finland*, 559-569, 1972.

575 Ferruginous concretions in a poorly drained soil of Alberta. Pawluk, S., Dumanski, J.; *Soil Science Society of America, Proceedings*, 37(1), 124-127, 1973.

576 Biosynthesis of branched long-chain fatty acids from the related short-chain alphaketo acid substrates by a cell-free system of *Bacillus subtilis*. Kaneda, T.; *Canadian Journal of Microbiology* 19(1), 87-96, 1973.

577 On meeting energy needs with Canadian coal. Berkowitz, N.; *Canadian Fuels Planning Conference, Toronto, Ontario, October 1972*, 1-17.

578 Sedimentation in Glenmore Reservoir, Calgary, Alberta. Hollingshead, A.B., Yaremko, E.K., Neill, C.R.; *Canadian Geotechnical Journal* 10(1), 109-119, 1973.

579 Two new megaspore species from the continental Upper Cretaceous (Campanian-Maestrichtian) of the Alberta Plains. Campbell, J.D., Untergasser, B.; *Canadian Journal of Botany* 50(12), 2553-2557, 1972.

580 Response of the flame ionization detector to nitrogenous compounds. Blades, A.T.; *Journal of Chromatographic Science* 10, 693-695, 1972.

581 Bibliography of groundwater studies in Alberta, 1912-1971. Nielsen, G.L., Hackbarth, D.A., Bainey, S.; Alberta Department Environment, Water Resources Division, Soils, Geology and Groundwater Branch, 44 pages, 1972.

582 Alberta. Campbell, J.D.; *Keystone Coal Industry Manual*, McGraw-Hill Company, New York, 530-532 (1972), 574-576 (1973).

583 Extruded peat cylinders: their physical characteristics as affecting tree seedling growth and greenhouse drought tolerance. Mitchell, D.L., Hocking, D., Kay, W.C.; *Canadian Journal of Forest Research* 2(4), 479-486, 1972.

584 Mechanism of hydrogen deuterium exchange of propylene over a Bronsted zeolite catalyst. George, Z.M., Habgood, H.W.; *Journal of Physical Chemistry* 76(26), 3940-3943, 1972.

585 The silver fallout patterns in precipitation from seeded convective storms. Summers, P.W.; Proceedings, American Meteorological Society 3rd National Conference on Weather Modification, Rapid City, South Dakota, 1-8, 1972. 600 Thermal formation of oxygen radicals on Y-type zeolites. Imai, T., Habgood, H.W.; Journal of Physical Chemistry 77(7), 925-831, 1973.

586 The seedability of multicell and supercell hailstorms using droppable pyrotechnic flares. Renick, J.H., Chisholm, A.J., Summers, P.W.; Proceedings, American Meteorological Society 3rd National Conference on Weather Modification, Rapid City, South Dakota, 9-15, 1972. 601 Hydrogeology and yield evaluations of a municipal well field, Alberta, Canada. Toth, J.; Hydrological Sciences - Bulletin 18(2), 165-189, 1973.

587 Radar signal depolarization by hydrometeors in Alberta hailstorms. Barge, B.L.; Preprints of the 15th Radar Meteorology Conference, American Meteorological Society, October 1972, 1-6. 602 Stratigraphic significance of early angiosperm pollen in the mid-Cretaceous strata of Alberta. Singh, C.; Geological Association of Canada Special Paper 13, 365-389, 1975.

588 Geology of the Luscar (Blairmore) coal beds, central Alberta Foothills. Holter, M.E., Mellon, G.B.; Proceedings, 1st Geological Conference on Western Canadian Coal, 125-135, 1972. 603 Diatoms and radiolarians from the Cretaceous system of Alberta - a preliminary report. Wall, J.H.; Geological Association of Canada Special Paper 13, 391-410, 1975.

589 Upper Cretaceous-Paleocene coal-bearing strata, northwest-central Alberta Plains. Kramers, J.W., Mellon, G.B.; Proceedings, 1st Geological Conference on Western Canadian Coal, 109-124, 1972. 604 Capsule pipelining - potential applications. Jensen, E.J.; Canadian Transportation Research Forum, Proceedings, 14th Annual Meeting, Calgary, April 1973, 14(1), 10 pages.

590 Coal seams of the Estevan area, southeastern Saskatchewan. Holter, M.E.; Proceedings, 1st Geological Conference on Western Canadian Coal, 173-184, 1972. 605 The flame ionization detector. Blades, A.T.; Journal of Chromatography Science 11(5), 251-255, 1973.

591 Supercell and multicell Alberta hailstorms. Chisholm, A.J., Renick, J.H.; International Cloud Physics Conference, London, England, August 1972, 8 pages. 606 Capsule pipelining - data acquisition and control of an experimental four inch pipeline. Kruyer, J.; Proceedings, Computers Electronics and Control Trade Show and Symposium, Calgary, May 1973, 12 pages.

592 Oxidation of bitumen in relation to its recovery from tar sand formations. Moschopedis, S.E., Speight, J.G.; Fuel 53(1), 21-25, 1974. 607 Capsule pipelining - operations data acquisition of a ten inch experimental pipeline. Roehl, A.A., Michaels, G.C.; Proceedings, Computers Electronics and Control Trade Show and Symposium, Calgary, May 1973, 7 pages.

593 Stress prediction and low temperature fracture susceptibility of asphaltic concrete pavements. Christison, J.T., Murray, D.W., Anderson, K.O.; Proceedings, Association of Asphalt Paving Technologists 41, 494-523, 1972. 608 Observations on river channel processes in Alberta. Neill, C.R.; 9th Canadian Hydrology Symposium, Edmonton, May 1973, 13 pages.

594 The response of asphalt pavements to low temperature climatic environments. Christison, J.T., Anderson, K.O.; Proceedings, 3rd International Conference on the Structural Design of Asphalt Pavements, London, England, September 1972, 12 pages. 609 Hydraulic geometry of sand rivers in Alberta. Neill, C.R.; 9th Canadian Hydrology Symposium, Edmonton, May 1973, 10 pages.

595 Limestone resources of Alberta. Holter, M.E.; Canadian Mining and Metallurgical Bulletin 76, 1-12, 1973. 610 Groundwater mapping: a prerequisite of successful groundwater resource estimation and management. Ozoray, G.F.; Groundwater Resources, International Symposium, Madras, India, November 1974, 1-a, 1-8.

596 Long-term growth of the oil industry in the United States. Fitzpatrick, A.B., Hitchon, B., McGregor, J.R.; Journal of Mathematical Geology 5(3), 237-267, 1973. 611 The first hydrogeological application of a space-photograph, Tamil Nadu, India, 1967. Ozoray, G.F.; Groundwater Resources International Symposium, Madras, India, November 1974, 1-a, 9-11. Discussions 2-6 to 2-15.

597 Capsule pipelining. Jensen, E.J., White, L.M.; Civic, April and May, 6 pages, 1973. 612 Tectonic structure as a hydrogeological factor. Ozoray, G.F.; Proceedings, Seminar on Problems in Groundwater Development, Madras, India, 155-158. October 1972.

598 The solubility of asphaltenes in hydrocarbon solvents. Mitchell, D.L., Speight, J.G.; Fuel 52, 149-152, 1973. 613 Hypohalite oxidation of humic acids. Chakrabarty, S.K., Kretschmer, H.O., Cherwonka, S.; Soil Science 117(6), 318-322, 1974.

599 Oxidation of petroleum fractions. Moschopedis, S.E., Speight, J.G.; Fuel 52, 83, 1973. 614 Corynebacterium cyclohexanicum nov. Spec.: a cyclohexanecarboxylic acid utilizing bacterium. Tokuyama, T., Kaneda, T.; Canadian Journal of Microbiology 19(8), 937-942, 1973.

615 Thermal decomposition of cyclobutanone. Blades, A.T., Sandhu, H.S.; *Journal of Physical Chemistry* 77(10), 1316, 1973.

616 Response of the flame ionization detector of fluor-alkanes. Blades, A.T.; *Journal of Chromatographic Science* 11 (May), 267-269, 1973.

617 The Pschorr Reaction. Elofson, R.M.; *Sansoni Edizioni Scientifiche, Florence*, 1973.

618 A statistical prediction technique for deriving contour maps from geophysical data. Newton, R.; *Journal of International Association for Mathematical Geology* 5(2), 179-189, 1973.

619 Stereo photogrammetry of cumulonimbus clouds. Renick, J.H., Balshaw, M.W., Warner, C., Douglas, R.H.; *Quarterly Journal of the Royal Meteorological Society* 99(419), 105-115, 1973.

620 Evaluating the productivity of pine forests in Hinton-Edson area, Alberta, from soil survey maps. Duman-ski, J., Wright, J.C., Lindsay, J.D.; *Canadian Journal of Soil Science* 53(3), 405-419, 1973.

621 Pschorr reaction by electrochemical generation of free radicals. II. Benzophenone series: An alternative mechanism. Gadallah, F.F., Cantu, A.A., Elofson, R.M.; *Journal of Organic Chemistry* 38(13), 2386-2393, 1973.

622 Prevention of 'spontaneous heating' by low-temperature immersion carbonization of coal. Berkowitz, N., Speight, J.G.; *Canadian Mining and Metallurgical Bulletin* 66(736), 109-111, 1973.

623 Occurrence of natural gas hydrates in sedimentary basins. Hitchon, B.; *Natural Gases in Marine Sediments*, Plenum Publishing Corporation, New York, 195-225, 1974.

624 Isolation of some unsaponifiable constituents of a Canadian tall oil. Patel, M.S., Mitchell, D.L.; *Canada Pulp and Paper Association, Transactions, Technical Section* 1(1), 17-21, 1975.

625 Reactions of coal with discharge-generated (excited) nitrogen species. Nishida, S., Berkowitz, N.; *Fuel* 52, 262-266, 1973.

626 Reactions of coal with nitrogen/hydrogen mixtures in a discharge. Nishida, S., Berkowitz, N.; *Fuel* 52, 267-269, 1973.

627 The influences of communiton and compression of substratum peat on growth and drought tolerance of lodgepole pine container seedlings. Hocking, D., Mitchell, D.L.; *Canadian Journal of Forest Research* 3(3), 342-345, 1973.

628 Introduction and general geology. Carrigy, M.A.; *Guide to the Athabasca Oil Sands area*, prepared for the Canadian Society of Petroleum Geologists Oil Sands Information Series Symposium, Alberta Research Council Information Series 65, 1-14, 1973.

629 Mesozoic geology of the Fort McMurray area. Carrigy, M.A.; *Guide to the Athabasca Oil Sands area*, prepared for the Canadian Society of Petroleum Geologists Oil Sands Information Series Symposium, Alberta Research Council Information Series 65, 77-101, 1973.

630 Industrial mineral resources of the Fort McMurray area. Hamilton, W.M., Mellon, G.B.; *Guide to the Athabasca Oil Sands area*, prepared for the Canadian Society of Petroleum Geologists Oil Sands Information Series Symposium, Alberta Research Council Information Series 65, 121-161, 1973.

631 Historical highlights. Carrigy, M.A.; *Guide to the Athabasca Oil Sands area*, prepared for the Canadian Society of Petroleum Geologists Oil Sands Information Series Symposium, Alberta Research Council Information Series 65, 173-185, 1973.

632 Road log. Fort McMurray to Fort MacKay. Kramers, J.W.; *Guide to the Athabasca Oil Sands area*, prepared for the Canadian Society of Petroleum Geologists Oil Sands Information Series Symposium, Alberta Research Information Series 65, 187-213, 1973.

633 Redox behavior of diazotized amines in aprotic solvents. Elofson, R.M., Gadallah, F.F., Cantu, A.A., Schulz, K.F.; *Canadian Journal of Chemistry* 52(13), 2430-2435, 1974.

634 Kinetics of cobalt-molybdate-catalyzed reactions of SO_2 with H_2S and COS and the hydrolysis of COS . George, Z.M.; *Journal of Catalysis* 32, 261-271, 1974.

635 Petroleum indicators in formation waters from Alberta, Canada. Hitchon, B., Horn, M.K.; *American Association of Petroleum Geologists Bulletin* 58(3), 464-473, 1974.

636 Laboratory study of scour at channel bends. Nwachukwu, B.A.; *Canadian Hydraulics Conference, Edmonton*, May 1973, 1-21, 144-164.

637 Predicting the required liquid throughput from the capsule velocity and pressure gradient in capsule pipelines. Kruyer, J., Ellis, H.S.; *Canadian Journal of Chemical Engineering* 52, 215-221, 1974.

638 Hailfall and crop damage in Alberta. Wojtiw, L., Renick, J.H.; *American Meteorological Society, 8th Severe Local Storms Conference, Denver*, October 1973, 138-141.

639 Some observations on the hydroprocessing of a heavy crude oil. Speight, J.G.; *Fuel* 52, 300-301, 1974.

640 Soil survey for urban development. Lindsay, J.D., Scheelar, M.D., Twardy, A.G.; *Geoderma* 10, 35-45, 1973.

641 Advances in coal analysis. Ignasiak, B.S., Ignasiak, T.M., Berkowitz, N.; *Analytical Chemistry* 2(3), 21 pages, 1975.

642 The shape of Alberta hailstones. Barge, B.L., Isaac, G.A.; *Journal des Recherches Atmosphériques*, December 1972, 11-20.

643 Application of geochemistry to the search for crude oil and natural gas. Hitchon, B.; *Introduction to Exploration Geochemistry*, Applied Publishing Ltd., Calgary, 509-545, 1974. 658 Frozen oil + LNG = 1 pipeline. Brown, R.A.S.; *Engineering Journal* 56(314), 11-17, 1974.

644 Comparative study of four tills in west central Alberta. Twardy, A.G., Pawluk, S., Lindsay, J.D.; *Canadian Journal of Soil Science* 54, 69-80, 1974. 659 Influence of certain metal salts on the solubility of petroleum asphaltene. Moschopedis, S.E., Speight, J.G.; *Fuel* 53(2), 222-223, 1974.

645 Thermal cracking of Athabasca bitumen. Speight, J.G.; *Bitumens, Asphalts and Tar Sands*, ed. by S.V. Chilingarian and T.F. Yen, Elsevier Scientific Publishing Co., Amsterdam, 123-154, 1978. 660 Effect of catalyst basicity for COS-SO₂ and COS hydrolysis reactions. George, Z.M.; *Journal of Catalysis* 35, 218-224, 1974.

646 Oxidation studies on coal relating to weathering. Part III. The influence of acidic hydroxyl groups, created during oxidation, on the plasticity and dilatation of the weathered coking coal. Ignasiak, B.S., Szladow, A.J., Montgomery, D.S.; *Fuel* 53(1), 12-15, 1974. 661 Separation of cis- and trans- isomers of hydroxycyclohexamecarboxylic acids and gas-liquid chromatography. Kaneda, T.; *Journal of Chromatography* 92(1), 191-195, 1974.

647 Adsorption of weak and non-electrolytes by activated carbon. Parkash, S.; *Carbon* 12, 37p43, 1974. 662 How much, how often? Marshall, P.W.; *College and Research Libraries*, November, 453-456, 1974.

648 The chemistry of activated carbon. Parkash, S.; *Chemistry and Industry* 1, 445-449, 1974. 663 Enzymatic aromatization of 4-ketocyclohexane-carboxylic acid to p-hydroxybenzoic acid. Kaneda, T.; *Biochemical and Biophysical Research Communications* 58(1), 140-133, 1974.

649 Sodium hypochlorite as a selective oxidant for organic compounds. Chakrabarty, S.K., Kretschmer, H.O.; *Journal of the Chemical Society, London Perkin Transactions*, 222-228, 1974. 664 The recovery of a bitumen by in situ oxidation. Moschopedis, S.E., Speight, J.G.; *American Chemical Society, Division of Fuel Chemistry, Preprint* 19(2), 7 pages, 1974.

650 Capsule pipelining - the system and its potential. Jensen, E.J.; *Hydrotransport III*. British Hydromechanics Research Association Conference, Coventry, England, May 1974, paper G1, G-1 to G-12. 665 Geology of the Wabasca A oil sand deposit (Grand Rapids formation). Kramers, J.W.; *Canadian Society of Petroleum Geologists, Memoir 3, Oil Sands, Fuel of the Future*, 68-83, 1974.

651 Friction and surface roughness effects in capsule pipelines. Kruyer, J.; *Hydrotransport III*. British Hydromechanics Research Association Conference, Coventry, England, Paper G5, G5-65 to G5-76, 1974. 666 Oil sand information. Marshall, P.W.; *Canadian Society of Petroleum Geologists, Memoir 3, Oil Sands, Fuel of the Future*, 234-239, 1974.

652 The effect of the density of cylindrical capsules on the pressure gradients in capsule pipelines. Ellis, H.S.; *Hydrotransport III*. British Hydromechanics Research Association Conference, Coventry, England, May 1974, paper G3, G3-31 to G3-42. 667 On 'unconventional' sources of petroleum hydrocarbons. Berkowitz, N., Chakrabarty, S.K.; *Canadian Institute of Mining and Metallurgical Petroleum Society, Annual Technical Meeting*, Calgary, May 1974, 10 pages.

653 Studies on the structure of coals. Part 2. The valence state of carbon. Chakrabarty, S.K., Kretschmer, H.O.; *Fuel* 53(2), 132-135, 1972. 668 The chemical modification of a bitumen and its non-fuel uses. Moschopedis, S.E., Speight, J.G.; *American Chemical Society Division of Fuel Chemistry, Preprint* 19(2), 291-299, 1974.

654 Pipelining coal-in-oil slurries. Brown, R.A.S.; *Proceedings, Coal-in-Oil Seminar*, Ottawa, May 1972, 19-24. 669 Experiments on the suspension of spheres in inclined tubes. II. Suspension by air. Round, G.F., Kruyer, J.; *Chemical Engineering Science* 29(3), 397-401, 1974.

655 Rapid and convenient laboratory method for extraction and subsequent spectrophotometric determination of bitumen content of bituminous sands. Patel, M.S.; *Journal of Analytical Chemistry* 46(6), 794-795, 1974. 670 Alberta oil sands, fuel of the future? Carrigy, M.A.; *Geoscience Canada* 1(1), 41-44, 1974.

656 Effect of basicity of the catalyst on Claus reaction. George, Z.M.; *Sulfur Removal and Recovery from Industrial Processes*, 75-92. (*Advances in Chemistry Series No. 139*), 1975. 671 Sulfomethylated humic acids as fertilizers and soil conditioners for restoration of sandy soils. Moschopedis, S.E.; *Proceedings, Workshop on Reclamation of disturbed lands in Alberta*, edited by D. Hocking and W.R. MacDonald. Northern Forest Research Centre Information Report NOR-X-116, March 27-28, 17 pages, 1974.

657 On the origin of rumen protozoan fatty acids. Emmanuel, B.; *Biochimica et Biophysica Acta* 337, 403-413, 1974.

672 Sulfomethylated humic acid products as soil conditioners and fertilizers for the restoration of the Athabasca oil sand mining area. Moschopedis, S.E., Mitchell, D.L.; Proceedings, Workshop on reclamation of disturbed lands in Alberta, edited by D. Hocking and W.R. MacDonald. Northern Forest Research Centre Information Report NOR-X-116, March 1972, 12 pages. 686 Studies on the structure of coal. Part III. Some inferences about skeletal structures. Chakrabarty, S.K., Berkowitz, N.; *Fuel* 53(4), 240-245, 1974.

673 The case for capsule pipelining in liquid media. Jensen, E.J.; Transportation Research Forum, San Francisco, October, 11 pages, 1974. 687 Some observations in the chemical and physical structure of bitumen. Speight, J.G.; paper presented at the United States Bureau of Mines Symposium on Fossil Fuel Chemistry and Energy, Laramie, Wyoming, July 1974, 15 pages.

674 Electrical conductivities of bitumen fractions in non-aqueous solvents. Penzes, S., Speight, J.G.; *Fuel* 53(3), 192-197, 1974. 688 The influence of rooting volume-seeding espacement and substratum density on greenhouse growth of lodgepole pine, white spruce, and douglas fir grown in extruded peat cylinders. Hocking, D., Mitchell, D.L.; *Canadian Journal of Forest Research* 5, 440-451, 1975.

675 Adsorption of cationic pesticides (Diquat and Paraquat) from aqueous solution by activated carbon. Parkash, S.; *Carbon* 12, 483-491, 1974. 689 Hydrogeochemical aspects of mineral deposits in sedimentary rocks. Hitchon, B.; *Handbook of Strata-bound and Stratiform Ore Deposits*, 53-66, 1976.

676 Total dissolved solids in groundwater of the Wainwright area, Alberta. Hackbarth, D.A.; *Ground Water* 12(4), 206-212, 1974. 690 Progresses in R- and Q- mode analysis: correspondence analysis and its application to the study of geological processes: Discussion. May, R.W.; *Canadian Journal of Earth Science* 11(10), 1494-1497, 1974.

677 Polarization measurements of precipitation backscatter in Alberta. Barge, B.L.; *Journal de Recherches Atmospheriques*, December 1972, 11-20. 691 Observations and calculations of depolarization effects at 3GHz due to precipitation. Humphries, R.G.; *Journal de Recherches Atmospheriques* 8(1-2), 155-161, 1974.

678 Lineament analysis using ERTS-1 images of Alberta. Ozoray, G.F.; Proceedings, International Seminar Exposition on Water Resources Instrumentation, Chicago, June 1974, 456-466. 692 Biosynthesis of branched long-chain fatty acids by species of *Bacillus*: Relative activity of three alpha-keto acid substrates and factors affecting chain length. Naik, D.M., Kaneda, T.; *Canadian Journal of Microbiology* 20(12), 1701-1708, 1974.

679 Behavior differences between Carboniferous and Cretaceous bituminous coals of similar rank. Berkowitz, N., Fryer, J.F., Ignasiak, B.S., Szladow, A.J.; *Fuel* 53(2), 141, 1974. 693 Geochemistry of trace elements in crude oils, Alberta. Hitchon, B., Filby, R.H., Shah, K.R.; *The Role of Trace Metals in Petroleum*, Ann Arbor Science Publishers, Michigan, 111-121, 1975.

680 Geology of the Alberta sands. Carrigy, M.A., Kramers, J.W.; presented at Engineering Institute of Canada, Western Region, Tar Sands Conference, April 1974, 10 pages. 694 An analysis of the single-stage gaseous permeation process. Pan, C.Y., Habgood, H.W.; *Industrial and Engineering Chemical Fundamentals* 13(4), 323-331, 1974.

681 Role of the geologist in the in-situ recovery of heavy crude oil from the Alberta oil sands. Kramers, J.W., Carrigy, M.A.; presented at Engineering Institute of Canada, Western Region, Tar Sands Conference, April 1974, 12 pages. 695 Paleodrainage pattern and late-orogenic basins of the Canadian Cordillera. Eisbacher, G.H., Carrigy, M.A., Campbell, R.B.; *Society of Economic Paleontologists and Mineralogists Special Publication No. 22*, 143-166, 1974.

682 Simultaneous pipelining of solidified crude oil and LNG. Jensen, E.J.; 4th International Conference on Liquified Natural Gas, Session 7, Paper 5, 15 pages, 1974. 696 In situ production problems. Redford, D.A., Cotsworth, P.F.; presented at Engineering Institute of Canada, Western Region Tar Sands Conference, Edmonton, April 1974, 10 pages.

683 Minimizing the pressure gradients in capsule pipelines. Ellis, H.S., Kruyer, J.; *Canadian Journal of Chemical Engineering* 42(4), 457-462, 1974. 697 Design construction and operation of an in situ pilot plant. Cotsworth, P.F., Redford, D.A.; presented at Engineering Institute of Canada, Western Region Tar Sands Conference, Edmonton, April 1974, 10 pages.

684 Studies on coal blends: preparation and mechanical strengths of some experimental cokes. Ignasiak, B.S., Berkowitz, N.; *Canadian Mining and Metallurgical Bulletin* 67(747), 72-76, 1974. 698 Development of communication paths within a tar sand bed. Redford, D.A., Cotsworth, P.F.; presented at American Chemical Institute Conference, Los Angeles, 112-120, 1974.

685 Distribution of chemisorbed oxygen in mildly oxidized caking coal. Ignasiak, B.S., Szladow, A.J., Berkowitz, N.; *Fuel* 53(4), 229-231, 1974.

699 Container program in Alberta. Ferdinand, S.I., Kay, W.C., Hellum, A.K.; North American Containerized Forest Seedling Symposium, Denver, August 1975, 10 pages. Great Plains Agricultural Council Publication 68, 44-52.

700 Greenhouse production of conifer seedlings. Kay, W.C.; Winter meeting, American Society of Agriculture Engineers, Chicago, December 1973, paper 73-1550, 8 pages.

701 Growth conifer seedlings in various peats and other mixtures. Mitchell, D.L., Kay, W.C.; Winter meeting, American Society of Agriculture Engineers, Chicago, December 1973, paper 73-1551, 18 pages.

702 A late Cretaceous microfossil assemblage from the Buffalo Head Hills, north-central Alberta. Wall, J.H., Singh, C.; Canadian Journal of Earth Sciences 12(7), 1157-1174, 1975.

703 Pavement elastic modulii by the surface wave method correlated with in situ measurements of elastic response under moving vehicle loads. Christison, J.T., Shields, B.P.; Canadian Technical Asphalt Association Conference, Regina, November 1974, 229-252.

704 Capsule pipelining of bulk products. Jensen, E.J.; Proceedings, Interpipe '75, Houston, Texas, January 1975, 13 pages.

705 The relative economics of recovering and upgrading Alberta's hydrocarbon resources. Feick, J.E., McConaghy, D.J.; paper presented at the Canadian Institute of Mining and Metallurgy Meeting, October 1975, 33 pages.

706 Remote sensing in hydrogeological mapping (with special respect to India and Canada). Ozoray, G.F.; Proceedings, Second World Congress on Water Resources, New Delhi, India, December 1975, 275-282.

707 Compositional variability in tills. May, R.W., Dreimanis, A.; Glacial Till, edited by Robert F. Legget, Royal Society of Canada Special Publications 12, 99-119, 1975.

708 The chemistry and technology of coal gasification. Brown, R.A.S.; Proceedings, 26th Canadian Conference on Coal, September 1975, 43-51.

709 Alberta. Campbell, J.D.; Keystone Coal Industry Manual, McGraw-Hill Company, New York, 720-722, 1977.

710 The hydrodynamics of spherical capsules. Ellis, H.S., Kruyer, J., Roehl, A.A.; Canadian Journal of Chemical Engineering 53, 119-125, 1975.

711 Methods of regional groundwater flow analysis with suggestions for the use of environmental isotopes. Wallick, E.I., Toth, J.; Interpretation of Environmental Isotope and Hydrogeochemical Data in Groundwater Hydrology. International Atomic Energy Agency, 37-64, 1976.

712 Methods of stratigraphic correlation of till in central and western Canada. Fenton, M.M., Dreimanis, A.; Glacial Till, Royal Society of Canada, Special Publication 12, 67-82, 1976.

713 Some aspects of earth science aid to developing countries. Ozoray, G.F.; Geoscientists and the Third World: A Collective Critique of Existing Aid Programs, Appendix II - Background Documents, Geological Survey Canadian Paper 74-57, 20-21, 1975.

714 Hydrodesulfurization of coke from Athabasca tar sands operation. George, Z.M.; Industrial and Engineering Chemistry, Product Research and Development 14(4), 298-303, 1975.

715 The degree of common alignment of hydrometeors. Barge, B.L., Hendry, A., McCormick, G.C.; Preprint Volume, 16th Radar Meteorology Conference, Houston, Texas, April 1975, 427-432.

716 On grain size from thin sections. Kellerhals, R., Shaw, J., Arora, V.K.; Journal of Geology 83, 79-96, 1975.

717 Recent progress in catalysis. Habgood, H.W., DallaLana, I.G.; Chemistry in Canada 27(6), 49-50, 1975.

719 The oil sands of Alberta. Berkowitz, N., Speight, J.G.; Fuel 54, 138-149, 1975.

720 Relation of petroleum resins to asphaltenes. Koots, J.A., Speight, J.G.; Fuel 54, 179-184, 1975.

721 Oxidation of a bitumen. Moschopedis, S.E., Speight, J.G.; Fuel 54, 210-212, 1975.

722 Evaluation of transverse mixing coefficients from slug tests. Beltaos, S.; Journal of Hydraulic Research 13(4), 351-360, 1975.

723 Growth chamber experiments on sulfomethylated humic acids as fertilizers for sandy soils. Moschopedis, S.E.; Canadian Journal of Soil Science 55, 395-397, 1975.

724 On the origin of pingos. Ryckborst, H.; Journal of Hydrology 26, 303-314, 1975.

725 Time-integrated radar echo tops as a measure of cloud seeding effects. Goyer, G.G.; Journal of Applied Meteorology 14(7), 1362-1365, 1975.

726 Overall strategy for the evaluation of a hail suppression experiment. Goyer, G.G.; Journal de Recherches Atmosphériques 9(2), 49-57, 1975.

727 Airborne infrared radiometry and hailswaths. Goyer, G.G., Markey, K.L.; Journal of Applied Meteorology 14(7), 1366-1375, 1975.

728 Chemical modification of bitumen heavy ends and their non-fuel uses. Moschopedis, S.E., Speight, J.G.; Shale Oil, Tar Sands and Related Fuel Sources, T.F. Yen, editor, Advances in Chemistry Series 151, 144-152, 1976.

729 Capsule pipelines-dream or reality? Ellis, H.S.; Engineering Journal 58, 43-49, 1975.

730 A simple field measure of ice strength. Gerard, R.; 3rd International Symposium on Ice Problems, Hanover, New Hampshire, United States, August 1975, 589-600. 744

731 Preliminary observations of spring ice jams in Alberta. Gerard, R.; 3rd International Symposium on Ice Problems, Hanover, New Hampshire, U.S.A., August 1975, 261-277. 745

732 The coefficient of friction as a design parameter for the pipeline flow of cylindrical capsules. Jensen, E.J.; Journal of Fluid Engineering, ASME, 1975. 746

733 An analysis of the lift-off of pipeline capsules. Ellis, H.S.; Proceedings, 4th Conference on the Hydraulic Transport of Solids in Pipes, Banff, Alberta, May 1977, C1-1 to C1-12. 747

734 Biosynthesis of branched chain fatty acids. Kaneda, T.; Methods in Biochemistry 9, 37-44, published in Japanese, 1975. 748

735 Rhodium (I) catalysed hydroformylation in the presence of polyphosphines. Sanger, A.R.; Abstract, 4th North American Meeting Catalysts Society, Toronto, Ontario, February 17-19, 1975. 749

736 Structure of aromatic diazocyanides: synthesis of diazoisocyanides. Ignasiak, B.S., Suszko, J., Ignasiak, T.M.; Journal of Chemical Society, London Perkin Transaction 1, 2122-2129, 1975. 750

737 Note on the anomalous absorption stemming from rocking vibrations of methylene groups in certain hydrocarbons and coal-derived extracts. Ignasiak, B.S., Ignasiak, T.M., Montgomery, D.S.; Fuel 54, 133-134, 1975. 751

738 Chloro-1,2-bis(diphenylphosphino)ethanecarbonyl-rhodium(I): an exceptional complex within a series. Sanger, A.R.; Journal of Chemical Society, Chemical Communications, 893-894, 1975. 752

739 International geological correlation program: quaternary glaciations in the Northern Hemisphere. Fenton, M.M., Teller, J.T.; Project 73, 1, 2, 4, Report Number 4, 196-203, 1977. 753

740 Relationship between capsule pulling force and pressure gradient in a pipe. Kruyer, J., Snyder, W.T.; Canadian Journal of Chemical Engineering 53, 378-383, 1975 754

741 Hydrodynamics for the design of a capsule pipeline. Kruger, J.; Proceedings, 4th International Conference, Hydraulic Transport of Solids in Pipes, Banff, Alberta, May 1977, C2-13 to C2-22. 755

742 Marginal marine foraminifera from the late Cretaceous Bearpaw Horseshoe Canyon transition, southern Alberta. Wall, H.J.; Reprinted from Journal of Foraminiferal Research Volume 6(3), 193-201, 1976. Unavailable. 756

743 Advances in Claus reaction and related reactions. George, Z.M.; Phosphorus and Sulfur 1, 315-322, 1976. 757

Skeletal structures of petroleum heavy ends. Speight, J.G.; Proceedings, National Science Foundation Workshop on the fundamental organic chemistry of coal, Knoxville, Tennessee, July 1975, 125-147.

A management model for soil-cement base pavements. Shields, B.P., Kathol, B.W., Weber, A.W.; Alberta Cooperative Research Program in Highway and River Engineering, Highway and Transportation Engineering/75/01, 74-117, 1975.

The scientific and economic value of karst studies in Alberta. Ozoray, G.F.; Alberta Geographer 12, 43-60, 1976.

Reactions of di-u-chloro-bis(cyclo-octa-1,5-dienerhodium(1)) with carbon mono-oxide and mono-, di-, or tri-tertiary phosphines, or 1,2-bis(diphenylarsino) ethane. Sanger, A.R.; Journal of the Chemical Society, Dalton Transactions, 120-129, 1977.

Isotopic and chemical considerations in radiocarbon dating of groundwater within the semi-arid Tucson basin, Arizona. Wallick, E.I.; Interpretation of Environmental Isotope and Hydrogeochemical Data in Groundwater Hydrology, International Atomic Energy Agency, Vienna, 195-212, 1976.

Oil sands: Fuel of the future. Hitchon, B.; Geoscience Canada 2(3), 175, 1975.

Gypsum and granite in Alberta. Godfrey, J.D.; Proceedings, 3rd Opportunity North Conference, Peace River, Alberta, November 26-29, 1975.

Bentonite, silica sand and iron. Green, R.; Proceedings, 3rd Opportunity North Conference, Peace River, Alberta, November 26-29, 1975.

Industrial minerals: Alberta's uncelebrated endowment. Hamilton, W.N.; 11th Forum on the Geology of Industrial Minerals, Proceedings, Kalispell, Montana, June 18-20. Montana Bureau of Mines and Geology Special Publications 74, 17-36, 1976.

The distribution of nitrogen, oxygen and sulphur in Athabasca asphaltenes. Speight, J.G.; PETRO 3, 1st Chemical Congress of the North American Continent, Mexico City, November 30 - December 5, 13 pages, 1975.

Air blowing of Athabasca bitumen. Moschopedis, S.E., Speight, J.G.; PETRO 3, 1st Chemical Congress of the North American Continent, Mexico City, November 30 - December 5, 11 pages, 1975.

Fracture phenomena in the Waterways and McMurray formations, Athabasca oil sands region, northeastern Alberta. Babcock, E.A.; Bulletin of Canadian Petroleum Geology 23(4), 810-826, 1975.

Activities of alpha-ketoisovalerate, pyruvate, and alpha-ketoglutarate dehydrogenases in a mutant of *Bacillus subtilis*. Kaneda, T., Tu, C.L.; Canadian Journal of Microbiology 22(4), 592-597, 1976.

The effect of the carrier gas on flame ionization detector sensitivity. Blades, A.T.; Chromatographic Science 14, 45-48, 1976.

758 Rheological changes of asphalt cements in service in Alberta. Anderson, K.O., Shields, B.P.; Alberta Cooperative Research Program in Highway and River Engineering, HTE/75/06, 389-409, 1975.

759 Some practical aspects of open-pit dewatering at Pine Point. Vogwill, R.I.J.; Canadian Mining and Metallurgical Bulletin 69(768), 76-88, 1976.

760 The evaporation and sedimentation in man-made Arade Lake, southern Portugal. Ryckborst, H., Brouwer, G.K.; Hydrological Science Bulletin 20(4), 555-574, 1975.

761 Geology of the Peace-Athabasca River Delta region, Alberta. Bayrock, L.A., Root, J.D.; Hydrologic Investigations, Technical Appendices, 1, 1973. Section N, 60 pages, 1972.

762 Production of coke from blends containing weakly caking or non-caking coals. Carson, D., Ignasiak, B.S., Berkowitz, N.; Canadian Mining and Metallurgical Bulletin 69(776), 1976.

763 Aromatic structures in coal. Chakrabarty, S.K., Berkowitz, N.; Nature 261(5555), 76-77, 1976.

764 Coal gasification: opportunities and challenges. Berkowitz, N., Brown, R.A.S.; Chemistry in Canada 28(6), 23-26, 1976.

765 On the origin of pingos - a reply. Ryckborst, H.; Journal of Hydrology 30, 299-201, 1976.

766 Bedrock jointing on the Alberta Plains. Babcock, E.A.; Proceedings of the First International Conference on the New Basement Tectonics, Salt Lake City, Utah, June 3-7, Utah Geological Association Publication 5, 142-152, 1976.

767 A statistical analysis of photolineaments and joints, terrain parameters and lineament density near Lethbridge, Alberta. Babcock, E.A.; Proceedings of the First International Conference on the New Basement Tectonics, Salt Lake City, Utah, June 3-7, Utah Geological Association Publication 5, 437-448, 1976.

768 In situ recovery from the Alberta oil sands. Redford, D.A.; Chemistry in Canada 28(8), 20-23, 1976.

769 Investigation of the carbonyl functions in a resin fraction from Athabasca bitumen. Moschopedis, S.E., Fryer, J.F., Speight, J.G.; Fuel 55(3), 184-186, 1976.

770 Investigation of hydrogen bonding by oxygen functions in Athabasca bitumen. Moschopedis, S.E., Speight, J.G.; Fuel, 55(3), 187-192, 1976.

771 Investigation of asphaltene molecular weights. Moschopedis, S.E., Fryer, J.F., Speight, J.G.; Fuel 55(3), 227-232, 1976.

772 Formation of ralstonite during low temperature acid digestion of shales. Hitchon, B., Holloway, L.R., Bayliss, P.; Canadian Mineralogists 14(3), 391-392, 1976.

773 Gieseler fluidities and contents of reactive groups in caking coals. Szladow, A.J., Ignasiak, B.S.; Fuel 55(3), 253, 1976.

774 Preparation and properties of granular activated carbons from oil sands bitumen and petroleum residues. Parkash, S., Berkowitz, N., Carbon 14, 288-289, 1976.

775 Engineering research at the Alberta Research Council. Wiggins, E.J.; Engineering Journal 59(2), 11-16, 1976.

776 Coal analysis from well logs. Holter, M.E., Kowalski, J.J.; Canadian Mining and Metallurgical Bulletin 69(770), 1-5, 1976.

777 Use of peat and coal for recovering zirconium from solution. Parkash, S., Brown, R.A.S.; Canadian Mining and Metallurgical Bulletin 69(771), 59-64, 1976.

778 Interactive computer-generated displays of radar data. Ramsden, J., Johnson, M.R., Humphries, R.G., Barge, B.L.; 17th Conference on Radar Meteorology, Seattle, Washington, October 1976. Preprint, 468-471.

779 The oxidation of a bitumen in relation to its recovery from tar sands formations. Moschopedis, S.E., Speight, J.G.; 13th Annual Asphalt Research Meeting, Laramie, Wyoming, July 1976, 192-201.

780 Oxygen functions in asphaltenes. Moschopedis, S.E., Speight, J.G.; Fuel 55(4), 334-336, 1976.

781 Effects of boron trifluoride sorption on the caking properties of coal. Chakrabarty, S.K., Parkash, S., Berkowitz, N.; Fuel 55(4), 270-272, 1976.

782 Ion formation in hydrocarbon flames. Blades, A.T.; Canadian Journal of Chemistry 54(18), 2919-2924, 1976.

783 Non-aromatic skeletal structures in coal. Chakrabarty, S.K., Berkowitz, N.; Fuel 55(4), 362-363, 1976.

784 An investigation of oxygen functions in bitumen fractions. Moschopedis, S.E., Speight, J.G.; Preprints, American Chemical Society Division of Fuel Chemistry 21(6), 198-206, 1976.

785 Water-soluble constituents of Athabasca bitumen. Moschopedis, S.E., Fryer, J.F., Speight, J.G.; Fuel 56(1), 109-110, 1977.

786 The degree of common orientation of hydrometeors observed by polarization diversity radars. Hendry, A., McCormick, G.C., Barge, B.L.; Journal of Applied Meteorology 15(6), 633-640, 1976.

787 Fine scale structure of convective storms associated with hail production. Barge, B.L., Bergwall, F.; Proceedings, 2nd World Meteorological Organization Scientific Conference on Weather Modification, Boulder, Colorado, August 1976, 341-348.

788 Structural significance of lineaments visible on aerial photos of the Athabasca oil sands area near Fort MacKay, Alberta. Babcock, E.A.; Bulletin of Canadian Petroleum Geology, 24(3), 457-470, 1976.

789 Ku-band and S-band observations of the differential propagation constant in snow. Barge, B.L., Hendry, A., McCormick, G.C.; Institute of Electrical and Electronics Engineers, Transactions on Antennas and Propagation, AP24(4), 521-525, 1976.

790 Geochemical significance of chemical composition and ESR properties of asphaltenes in crude oils from Alberta, Canada. Schulz, K.F., Elofson, R.M., Hitchon, B.; *Geochimica et Cosmochimica Acta* 41, 567-580, 1977.

791 Geochemical links between oil fields and ore deposits in sedimentary rocks. Hitchon, B.; *Proceedings, Forum 1 on Oil and Ore in Sediments*, Imperial College London, May 1977, 1-34.

792 Solids pipelining, the Canadian experience. Jensen, E.J.; *Proceedings, International Symposium on Freight Pipeline*, December 5-8, Washington, D.C., 1976.

793 Survey of heavy minerals in the surface-mineable area of Athabasca oil sand deposit. Kramers, J.W., Brown, R.A.S.; *Canadian Mining and Metallurgical Bulletin* 69(776), 92-99, 1976.

794 Fatty acids of the genus *Bacillus*: an example of branched-chain preference. Kaneda, T.; *Bacteriological Reviews* 41(2), 391-418, 1977.

795 Industrial applications of water soluble humic acids. Moschopedis, S.E.; *Chimica Chronika* 47(7-8), 39-42, 1976.

796 The effect of air blowing on the properties and constitution of a natural bitumen. Moschopedis, S.E., Speight, J.G.; *Journal of Materials Science* 12, 990-998, 1977.

797 Underground coal gasification field test in Alberta: 1976. Roehl, A.A., Brown, R.A.S., Jensen, E.J.; *American Chemical Society, Fuel Chemistry Division* 22(4), 92-104.

798 Gas chromatographic retention characteristics of Omega-alicyclic fatty acids. Kaneda, T.; *Journal of Chromatography* 136, 323-327, 1977.

799 Polymeric structure of coal. 1. Role of ether bonds in constitution of high-rank vitrinite. Ignasiak, B.S., Gawlik, M.; *Fuel* 56, 216-222, 1977.

800 Sulfur isotope geochemistry of a groundwater generated $\text{Na}_2\text{SO}_4/\text{Na}_2\text{CO}_3$ deposit and the associated drainage basin of Horseshoe Lake, Metiskow, east central Alberta. Wallick, E.L.; *2nd International Symposium on Water-Rock Interaction*, Strasbourg, France, August 1977, 11-56 to 11-64.

801 Desulfurization of high sulfur cokes from processing of oil sands bitumen. George, Z.M., Parmar, B.S., Tollefson, E.L.; *Proceedings, AIChE Second Pacific Chemical Engineering Congress (Pachec '77)*, Denver, August 1977, 7 pages.

802 Regional hydrogeology of the Athabasca oil sands area, Alberta. Hackbarth, D.A.; *Canadian Institute of Mining and Metallurgy, Canada-Venezuela Oil Sands Symposium 77*, May 27-June 4, page 15, 1977.

803 Regeneration of poisoned Claus alumina catalysts. George, Z.M.; *Preprints of the American Chemical Society, Division of Petroleum Chemistry* 22(4) Chicago, Illinois, September 2, 1335-1342, 1977.

804 An investigation of asphalt preparation from Athabasca bitumen. Moschopedis, S.E., Speight, J.G.; *Proceedings, Association of Asphalt Paving*, New Orleans, February 1976, 78-89.

805 Surface characteristics and surface behavior of polymer carbons. I. Associated oxygen and hydrogen. Parkash, S.; *Carbon* 15(3), 157-160, 1977.

806 Geology of Alberta - A section in *Naturalist's Guide to Alberta*. Godfrey, J.D.; Provincial Museum of Alberta, 1977.

807 Metamorphism in the Canadian shield of northeastern Alberta. Godfrey, J.D., Langenberg, C.W.; *Metamorphism in the Canadian Shield*, Geological Survey of Canada Paper '78-10, 129-138, 1978.

808 In-situ coal gasification: The Forestburg (Alberta) field test, 1976. Berkowitz, N., Brown, R.A.S.; *Canadian Mining and Metallurgical Bulletin* 70(788), 92-96.

809 Guidebook for a soils and land use tour in Banff and Jasper National Parks. Knapik, L.J., Coen, G.M.; *11th International Congress of Soil Science*, Edmonton, Canada, June 1978.

810 A tour of the Athabasca oil sands mining area. Soils and land reclamation in the Boreal forest region of northeastern Alberta. Greenlee, G.M.; *11th International Congress of Soil Science*, Edmonton, Canada, June 1978.

811 Tour 6. Macyk, T.M.; *11th International Congress of Soil Science*, Edmonton, Canada, June 1978.

812 Tour 2. Macyk, T.M.; *11th International Congress of Soil Science*, Edmonton, Canada, June 1978.

813 Early stages of coal carbonization: Evidence for isomerization reactions. Chakrabarty, S.K., Berkowitz, N.; reprinted, *Organic Chemistry of Coal*, American Chemical Society Symposium Series No. 71, 131-141, 1978.

814 Alberta UCG field test - 1976. Roehl, A.A., Brown, R.A.S., Jensen, E.J.

815 Gravity-induced cross formation flow of formation fluids, Red Earth region, Canada: analysis, patterns and evolution. Toth, J.; *Reprinted Water Resources Research* 14(5), October 1978, 805-843.

816 Feed composition cycling of an SO_2 oxidation reactor at high conversions. Briggs, J.P., Hudgins, R.R., Silveston, P.L.; *Preprints, 5th Canadian Symposium on Catalysis*, Calgary, Alberta, October 22-27, 118-128, 1977.

817 Asphaltene molecular weights by a cryoscopic method. Speight, J.G., Moschopedis, S.E.; *Fuel* 56, 344-345, 1979.

818 Energy recovery by underground coal gasification - An Alberta field test. Roehl, A.A., Brown, R.A.S., Jensen, E.J.; *Preprints, 28th Annual Meeting, Petroleum Society of Canadian Institute of Mining and Metallurgy*, Edmonton, Alberta, 1977, 13 pages.

819 Underground coal gasification in Canada. Roehl, A.A., Brown, R.A.S., Jensen, E.J.; *Proceedings, 3rd Annual Symposium on Underground Coal Conversion*, Fallen Leaf Lake, California, June 1978, 92-104.

820 The effect of oxygen functions on the properties of bitumen fractions. Speight, J.G., Moschopedis, S.E.; *The Oil Sands of Canada-Venezuela 1977*, Edmonton, Alberta, May 30-June 3, Canadian Institute of Mining and Metallurgy Special Volume 17, 159-161, 1978.

821 Poisoning and regeneration of Claus alumina catalysts. George, Z.M.; *Preprints, 5th Canadian Symposium on Catalysis*, Calgary, Alberta, October 26-27, 63-73, 1977.

822 Tour Guide Book of Soils and Land Use in the Edmonton Region, Alberta. Edmonton Land Tours E1, E2 and E3. Greenlee, G.M.; *11th International Congress of Soil Science*, Edmonton, Canada, June 1978.

823 A comparison of joints in bedrock and fractures in overlying Pleistocene lacustrine deposits, central Alberta. Babcock, E.A.; *Canadian Geotechnical Journal* 14(3), 357-366, 1977.

824 The wavy aspect of a horizontal co-current air-water film flow and the transport phenomena. Toma, P., Pimsner, V.; *International Journal Multiphase Flow* 3, 273-283, 1977.

825 Observations on Kolbel-Engelhardt hydrocarbon synthesis. Maekawa, Y., Chakrabarty, S.K., Berkowitz, N.; *Preprints, 5th Canadian Symposium on Catalysis*, Calgary, Alberta, October 1977, 2-12.

826 The Oldman River lead-zinc occurrence, southwestern Alberta. Holter, M.E.; *Bulletin of Canadian Petroleum Geology* 25(1), 92-109, 1977.

827 Kinetics of cobalt-molybdate catalysed reduction of SO₂ and CO. George, Z.M., Tower, R.W.; *Preprints, 5th Canadian Symposium on Catalysis*, Calgary, Alberta, October 26-27, 1977, 492-502.

828 Hydroformylations of 1-hexene catalysed by complexes of Rhodium(1) with di- or tritertiary phosphines. Sanger, A.R.; *Journal Molecular Catalysis* 3(4), 221-226, 1978.

829 A comparison of homogeneous and polymer-supported catalysts for the hydroformylation of 1-hexene. Sanger, A.R.; *5th Canadian Symposium on Catalysis*, Calgary, Alberta, October 26-27, 1977, pages 281-287.

830 Diphosphine complexes of iridium(I), palladium(II), and platinum(II). Sanger, A.R.; *Journal of the Chemical Society, Dalton Transactions* 1977(19), 1971-1976.

831 The structures and hydroformylation catalytic activities of polyphosphine complexes of rhodium (I), and related complexes immobilized on polymer supports. Sanger, A.R., Schallig, L.R.; *Journal of Molecular Catalysis* 3(1-3), 101-109, 1978.

832 The behavior of hydrogen and carbon monoxide with graphite ferric chloride. Parkash, S., Chakrabarty, S.K., Hooley, J.G.; *Proceedings, 13 Biennial Conference on Carbon*, Irvine, California, July 18-22, 282-23, 1977.

833 Climatology of hailstorms in central Alberta. Wojtiw, L.; *Alberta Geographer* 13, 15-30, 1977.

834 In-situ coal gasification: the 1976 Alberta field test. Berkowitz, N., Brown, R.A.S.; *Proceedings, National Technical Conference, Canadian Gas Association*, Montreal, Quebec, October 1977, 11 pages.

835 Major landslides on the eastern slopes of the southern Canadian Rockies. Locat, J., Cruden, D.M.; *Proceedings, 15th Annual Engineering Geologists and Soils Engineers Symposium*, Boise, Idaho, 179-197, 1977.

836 Geochemical aspects of in-situ recovery. Hitchon, B.; *The Oil Sands of Canada-Venezuela 1977*, Edmonton, Alberta, May 30-June 3, Canadian Institute of Mining and Metallurgy Special 17, 80-85, 1978.

837 Phototoxicity of organic and inorganic iodides to *Avena sativa*. Chen, S.C., Elofson, R.M.; *Journal of Agricultural and Food Chemistry*, 26(1), 287-289, 1978.

838 The Athabasca carbonate and evaporite buried karst. Ozoray, G.F.; *12th Congress, International Association of Hydrogeologists on Karst Hydro*, Huntsville, Alabama, September 1977, 85-98.

839 Desulfurization of a fluid coke similar to the Athabasca oil sands coke. George, Z.M., Schneider, L.G., Tolleson, E.L.; *Fuel* 57, 497-501, 1978.

840 Some aspects of Athabasca oil sands processing. Speight, J.G., Moschopedis, S.E.; *Proceedings, Oil Sands Symposium, 27th Canadian Chemical Engineering Conference*, Calgary, October 1977, 1-11.

841 Response to the climatology of hail in North America. Goyer, G.G.; *American Meteorological Society Monograph* 38, 129-133, 1978.

842 Hydrogeological testing associated with underground coal gasification. Vogwill, R.I.J.; *Canadian Geotechnical Journal* 16(1), 59-68, 1979.

843 Application of the drill-stem test to hydrogeology. Hackbarth, D.A.; *Ground Water* 16(1), 5-11, 1978.

844 Introduction to oxygen functions into asphaltenes and resins. Moschopedis, S.E., Speight, J.G.; *Fuel* 57, 25-28, 1978.

845 Forecasting hailfall in Alberta. Renick, J.H., Maxwell, J.B.; *American Meteorological Society Monograph* 38, 145-151, 1978.

846 Hailfall characteristics and crop damage in Alberta. Summers, P.W. Wojtiw, L.; *4th Congress, Canadian Meteorological Society*, Winnipeg, Manitoba, June 1970.

847 The economic impact of hail damage in Alberta, Canada and its dependence on various hailfall parameters. Summers, P.W., Wojtiw, L.; *Preprint, American Meteorological Society, Seventh Severe Local Storms Conference*, Kansas City, Missouri, October 1971, 158-163.

848 Climatology of hailstorms in Alberta. Wojtiw, L.; *NHRE Symposium/Workshop on Hail*, Estes Park, Colorado, September 1975, *Preprint Volume 4*, 14 pages.

849 Hailfall and crop damage in central Alberta. Wojtiw, L.; *Journal of Weather Modification*, 7, Number 2, December 1975, 28-42.

850 Record Canadian hailstorms. Wojtiw, L., Lozowski, E.P.; *Bulletin, American Meteorological Society*, 56, 1275-1276.

851 Simple numerical cloud models as potential tools in evaluating hail suppression techniques. English, M., Wong, R.K.W.; *Proceedings, 2nd World Meteorological Organization Scientific Conference on Weather Modification*, Boulder, Colorado, August 1976, 357-361.

852 Computer applications in a 'data-rich' research environment. Johnson, M.R.; *Proceedings, Digital Equipment Computer Users Society*, Banff, Alberta, February 1977, 1001-1004.

853 Climatology of hailstorms in central Alberta (1957-1976). Wojtiw, L.; *Alberta Geographer*, August 1977, 18 pages.

854 Climatologically related hail research at the Alberta Hail Project. Lunn, G.R., Wojtiw, L.; *Proceedings, Alberta Climatological Committee, Workshop and Annual Meeting on Applications of Climatology*, Edmonton, Alberta, March 1977, 97-102.

855 Weibull distribution, iterative likelihood techniques and hydrometeorological data. Wong, R.K.W.; *Journal of Applied Meteorology*, 16(12), 1360-1364, 1977.

856 Contribution to the chemistry of petroleum asphaltenes: non-fuel uses of asphaltenes. Moschopedis, S.E., Speight, J.G.; *Chimka Chronika* 42(7), 1-44, 1957.

857 Influence of metal salts on bitumen oxidation. Moschopedis, S.E., Speight, J.G.; *Fuel* 57, 235-240, 1978.

858 The origin of non-Saytzeff dehydration of alpha-ferrocenyl-t-carbinols. Elofson, R.M., Chen, S.C.; *Chemistry and Industry* 2, 64-65, 1978.

859 Real-time computer-generated displays of radar data for aircraft coordination and hydrology. Humphries, R.G., Ramsden, J.; Barge, B.L., Johnson, M.R.; *Preprints, 18th Conference on Radar Meteorology*, Atlanta, Georgia, March 1978, 464-467.

860 Shear phenomena in ice-thrust gravels, central Alberta. Babcock, E.A., Fenton, M.M., Andriashuk, L.D.; *Canadian Journal of Earth Sciences* 15(2), 277-283, 1978.

861 The Cretaceous-Tertiary boundary in south-central Alberta - a reappraisal based on dinosaurian and microfloral extinctions. Singh, C., Russell, D.A.; *Canadian Journal of Earth Sciences* 15(2), 284-292, 1978.

862 Climatological aspects of wind and solar energy. Rachuk, T.W.; *Proceedings, Alberta Climatological Committee, Workshop and Annual Meeting on Applications of Climatology*, Edmonton, Alberta, March 1977, 29-33.

863 Precipitation measurement by weather radar. Barge, B.L., Humphries, R.G.; *Proceedings, Alberta Climatological Committee, Workshop and Annual Meeting on Applications of Climatology*, Edmonton, Alberta, March 1977, 34-64.

864 Climatological data and research at the Alberta Hail Project. Renick, J.H.; *Proceedings, Alberta Climatological Committee, Workshop and Annual Meeting on Applications of Climatology*, Edmonton, Alberta, March 1977, 103-104.

865 H₂S oxidation on sodium faujasites. Dudzik, Z., Zielek, M.; *Preprints, 5th Canadian Symposium on Catalysis*, Calgary, Alberta, October 26-27, 478-491, 1977.

866 The specific catalytic activity of sodium faujasites in H₂S oxidation. Dudzik, Z., Zielek, M.; *Journal of Catalysis* 51, 345-354, 1978.

867 Genesis of the Tulip Lake dome of northeastern Alberta, studied by computer-based methods. Langenberg, C.W., Godfrey, J.D.; *Canadian Journal of Earth Sciences*, December 1977.

868 Oxidation of coal by alkaline sodium hypochlorite. Chakrabarty, S.K.; *Organic Chemistry of Coal, American Chemical Society Symposium Series* 71, 100-106, 1978.

869 Permeation of water vapor through cellulose triacetate membranes in hollow fiber form. Pan, C.Y., Jensen, C.D., Bielech, C., Habgood, H.W.; *Journal of Applied Polymer Science* 22, 2307-2323, 1978.

869A Response to scale of hail. Goyer, G.G.; *Hail: a review of hail science and hail suppression*, *American Meteorological Society, Meteorological Monograph* 38, 129-133, 1977.

870 Determining axes, axial planes and sections of macroscopic folds using computer-based methods. Charlesworth, H.A.K., Langenberg, C.W., Ramsden, J.; *Canadian Journal of Earth Sciences* 13, 54-65, 1976.

871 Automatic contour mapping using triangular-element data structures and an interpolant over each irregular triangular domain. Gold, C.M., Charters, T.D., Ramsden, J.; *Computer Graphics* 11, 170-175, 1977.

872 Metallurgical cokes from oxidized highly caking coals. Ignasiak, B.S., Carson, D., Jadernik, P., Berkowitz, N.; American Chemistry Society, Division of Fuel Chemistry, Anaheim, California, March 12-17, 1978, Volume 23, 252-262.

873 Novel binuclear cationic complexes of rhodium (1) and iridium (1). Sanger, A.R., Cowie, M., Mague, J.T.; *Journal of the American Chemical Society* 100(11), 3628-3629, 1978.

874 In situ measurements of strains and deflections in a full-depth asphaltic concrete pavement. Christison, J.T., Anderson, K.O., Shields, B.P.; Association of Asphalt Paving Technologists, Lake Buena Vista, Florida, February 13-15, 1978.

875 Gas separation by permeation. Part 1. Calculation methods and parametric analysis. Pan, C.Y., Habgood, H.W.; *Canadian Journal of Chemical Engineering* 56, 197-209, 1978.

876 Gas separation by permeation. Part II. Effect of permeate pressure drop and choice permeate pressure. Pan, C.Y., Habgood, H.W.; *Canadian Journal of Chemical Engineering* 56, 210-217, 1978.

877 Electrophoretic mobilities of virus adsorbing filter materials. Kessick, M.A., Wagner, R.A.; *Water Research* 12, 263-268, 1978.

878 The first international workshop on hailfall measurements, Banff, Alberta, October 1977. Goyer, G.G.; *Bulletin of the American Meteorological Society* 59(3), 297-298.

879 The behavior of hydrogen and carbon monoxide with graphite ferric chloride - II, effect of activation. Parkash, S., Chakrabarty, S.K., Hooley, J.G.; *Carbon* 16(4), 231-234, 1978.

880 Chipewyan granite - A building stone prospect in Alberta. Godfrey, J.D.; *CIM Bulletin* (1979) and Meeting, 1978, No. 805, Vol. 72, 105-109.

881 Field investigations of river ice jams. Beltaos, S.; *Proceedings, 4th International Symposium on Ice Problems*, International Association for Hydraulic Research, Luela, Sweden, August 1978, 17 pages.

882 The economics of information retrieval services. Fitzpatrick, A.B., Townsend, V.S.; European Congress 1978, London, England, May, 689-705.

883 Measurement of subsurface fractures from dip meter logs. Babcock, E.A.; *American Association of Petroleum Geologists Bulletin* 62(7), 1111-1126, 1978.

884 The hailstorm giant. Goyer, G.G.; *Bulletin of the American Meteorological Society*, 59(4), 429, 1978.

885 Alkaline hypohalite oxidations. Chakrabarty, S.K.; *Oxidation in Organic*, edited by Walter S.; Trahanovsky, Academic Press, Volume 5C, Chapter 5, 343-370, 1978.

886 Factors affecting bitumen recovery by the hot water process. Speight, J.G., Moschopedis, S.E.; *Fuel Processing Technology* 1, 261-268, 1978.

887 Assessment of structures in coal by spectroscopic techniques. Speight, J.G.; *Analytical Methods for Coal and Coal Products* 2, 75-101, 1978.

888 Climatologically related hail research at the Alberta Hail Project. Lunn, G.R., Wojtiw, L.; *Applications of Climatology*, Edmonton, Alberta, March 4, 1977.

889 A strain energy criterion for failure of fleeting ice sheets. Beltaos, S.; *Canadian Journal of Civil Engineering* 5(3), 352-361, 1978.

890 Electron donor properties of claus catalysts. I. Influence of NaOH (sodium hydroxide) on the catalytic activity of silica gel. Dudzik, Z., George, Z.M.; *Journal of Catalysis*, Volume 63, pages 72-82, 1980.

891 The difficulties and applications of hail fall measurements. Goyer, G.G.; *Atmosphere - Ocean* 16(1), 2-5, 1978.

892 Thermal decomposition of asphaltenes. Speight, J.G., Parkash, S., Moschopedis, S.E.; *Fuel* 57, 431-434, 1978.

893 A field study of longitudinal dispersions. Beltaos, S., Day, T.J.; *Canadian Journal of Civil Engineering* 5(4), 572-585, 1978.

894 Hydrogeological testing and consideration associated with underground coal gasification in Alberta. Vogwill, R.I.J.; *Proceedings, 4th Underground Coal Conversion Symposium*, Steamboat Springs, Colorado, July 1978, 487-495.

895 Polymeric structure of coal. 2. Structure and thermoplasticity of sulphur-rich Rasa lignite. Ignasiak, B.S., Fryer, J.F., Jadernik, P.; *Fuel* 57, 578-584, 1978.

896 Molecular weights of solubilized coal products. Ignasiak, B.S., Chakrabarty, S.K., Berkowitz, N.; *Fuel* 57, 507-508, 1978.

897 Sampling statistics of Alberta hailpad data. Wojtiw, L., Lozowski, E.P.; *Atmospheric - Ocean* 16(1), 2-5, 1978.

898 Underground coal gasification in Canada - an assessment of the Alberta test. Roehl, A.A., Brown, R.A.S., Edwards, W.C., Jensen, E.J.; *Proceedings, 4th Underground Coal Conversion Symposium*, Steamboat Springs, Colorado, July 1978, 97-101.

899 Precipitation measurements by weather radar in central Alberta - applications to hydrology. Barge, B.L., Humphries, R.G.; *Preprints, 7th Symposium of the Water Studies Institute on Applied Prairie Hydrology*, Saskatoon, Saskatchewan, May 1978, 17-25.

900 The effect of diluent gases on ion formation in hydrocarbon flames. Blades, A.T., Chawner, B.L.; *Canadian Journal of Chemistry* 56(17), 2273-2277, 1978.

901 The effect of diluent gases on ion formation in C_2N_2 flames. Blades, A.T., Chawner, B.L.; Canadian Journal of Chemistry 56(17), 2278-2280, 1978.

902 Groundwater temperatures in the Athabasca oil sands area, Alberta. Hackbarth, D.A.; Canadian Journal of Earth Sciences, 15(1), 1689-1700, 1978.

903 Hydrogeological concerns in underground excavation, Athabasca oil sands area. Hackbarth, D.A.; Proceedings, Alberta Oil Sands Technical and Research Authority Seminar on Underground Excavation in Oil Sands, University of Alberta, Edmonton, May 1978.

904 The structure and chemistry of coal: The search for a typical coal molecule. Chakrabarty, S.K.; World Conference on Future Sources of Organic Raw Materials, CHEMRAWN ONE, Toronto, July 10-13, 1978.

905 Prospects for coal conversion in Canada. Berkowitz, N.; Chemistry for Energy, Chemical Institute of Canada Symposium Series 90, Chapter 2, 11-27, 1979.

906 Underground coal gasification in Canada - excavation of the Alberta test site. Roehl, A.A., Brown, R.A.S., Jensen, E.J.; 53rd Annual Fall Technical Conference and Exhibition of the Society of Petroleum Engineers, Houston, Texas, October 1978, SPE 7514.

907 Laboratory simulation of in situ coal gasification. Greenfeld, M.; Chemistry for Energy, Chemical Institute of Canada Symposium, Winnipeg, Manitoba, June 5-7, 1978, American Chemical Society Symposium Series 90, Chapter 7, 80-95.

908 Cross-formational gravity-flow of groundwater: A mechanism of the transport and accumulation of petroleum (The generalized hydraulic theory of petroleum migration). Toth, J.; Reprinted, Problems of Petroleum Migration, American Association of Petroleum Geologists 10, 121-167, 1979.

909 Clay slimes from the extraction of Alberta oil sands, Florida phosphate matrix and other mined deposits. Kessick, M.A.; Canadian Mining and Metallurgical Bulletin 71(790), 80-88, 1978.

910 A demographic analysis of the snowshoe hare cycle. Keith, L.B., Windberg, L.A.; Wildlife Monographs, Number 58, April 1978, 70 pages.

911 Un mouvement pulsatoire des cellules orageuses à l'origine des coeurs de grès observés au sol. Goyer, G.G.; Actes des journées d'études sur la convection développée et les précipitations, Institut National d'Astronomie et de Géophysique, Clermont - Ferrand, France, January 1977. Unavailable

912 Patterns of dynamic pressure increment of formation-fluid flow in large drainage basins, exemplified by the Red Earth region, Alberta, Canada. Toth, J.; National Hydrogeological Conference, Edmonton, Alberta, September 30-October 4, 1978.

913 Sulphoxidation of Athabasca bitumen. Moschopedis, S.E., Speight, J.G.; Fuel 57, 647-649, 1978.

914 Relief and microclimate as related to soil properties. Macyk, T.M., Pawluk, S., Lindsay, J.D.; Canadian Journal of Soil Science 58, 421-438, 1978.

915 The effect of oxygen functions on the properties of bitumen fractions. Moschopedis, S.E., Speight, J.G.; Journal of Canadian Petroleum Technology, July-September 1978.

916 The hail sensor intercomparison experiment. Erb, R., Wojtiw, L., Wong, M.; Atmosphere-Ocean 16(1), 94-106, 1978.

917 Evolution of hydrogen during alkylation of coal. Carson, D., Ignasiak, B.S.; Fuel 58, 72-73, 1979.

918 Patterns of dynamic pressure increment of formation fluid flow in large drainage basins, exemplified by the Red Earth region, Alberta, Canada. Toth, J.; Reprint, Bulletin of Canadian Petroleum Geology, 27(1), 63-86, 1979.

919 Oil sands research at the Alberta Research Council. Wiggins, E.J.; Oil Sands of Canada-Venezuela 1977, Canadian Institute of Mining and Metallurgy, 777-780.

920 Hydrogeological and air acceptance testing associated with the Forestburg underground coal gasification project. Vogwill, R.I.J., Edwards, W.C.; Proceedings, National Hydrogeological Conference, Edmonton, Alberta, September 30-October 4, 1978, 248-258.

921 Surface characteristics and surface behavior of polymer carbons. 2. Adsorption of water vapor. Parkash, S., Bansal, R.C., Dhami, T.L.; Carbon 15, 389-395, 1978.

922 Fluid-rock interactions during steam injection. Boon, J.A.; Oil Sands of Canada-Venezuela 1977, Canadian Institute of Mining and Metallurgy, 133-138.

923 Regional distribution of quantity and quality of groundwater in Alberta. Ozoray, G.F.; Proceedings, National Hydrogeological Conference, Edmonton, Alberta, September 30-October 4, 1978, 260-266.

924 Groundwater potential of the karst regions of Alberta, Canada. Ozoray, G.F.; Hydrologic problems in karst regions, edited by R.R. Dilamarter and S.C. Csallany, 235-250, 1977.

925 Reactions of coal with nitronium tetrafluoroborate. Chakrabarty, S.K., Kretschmer, H.O., Ungarian, D.; American Chemical Society, Division of Fuel Chemistry, Miami, Florida, September 1978.

926 Behavior catalysts of iron in hydrocarbon synthesis from carbon monoxide and steam. Kotanigawa, T., Chakrabarty, S.K., Berkowitz, N.; 176th National Meeting of the American Chemical Society, Division of Colloid and Surface Chemistry, Miami Beach, Florida, September 1978, 9 pages.

927 Physical modelling of in situ recovery methods for oil sands. Redford, D.A., Farouq Ali, S.M.; The Oil Sands of Canada-Venezuela 1977, Edmonton, Alberta, May 30-June 3, Canadian Institute of Mining and Metallurgy, Special Volume 17, 319-326, 1978.

928 Experimental investigations of the transport mechanisms controlling in situ recovery from heavy oil sands. Goss, M.J., Exall, D.; The Oil Sands of Canada-Venezuela 1977, Edmonton, Alberta, May 30-June 3, Canadian Institute of Mining and Metallurgy, Special Volume 17, 327-333, 1978. 942

929 Low temperature oxidation process for the recovery of bitumen. Redford, D.A., Cram, P.J.; Oil Sands, Canadian Institute of Mining and Metallurgy, 679-690, 1977. 943

930 Mass transfer of silica during steam injection. Boon, J.A.; Proceedings, 2nd International Symposium on Water-Rock Interaction, Strasbourg, August 1977, 7 pages. 944

931 Some economic aspects of water-rock interaction. Hitchon, B., Levinson, A.A.; Problems of Petroleum Migration, American Association of Petroleum Geologists, Studies in Geology, Number 10, 1978. 945

932 Letter to the Editor. Blades, A.T.; Chromatographic Science 16(11), 568, 1978. 946

933 Complexes of iridium (I) with the optically active bisphosphine DIOP. Sanger, A.R., Tan, K.; *Inorganica Chimica Acta* 31, L439-L440, 1978. 947

934 A field investigation of load equivalency factors for various wheel and axle configurations. Christison, J.T., Shields, B.P.; Canadian Technical Asphalt Association, Winnipeg, Manitoba, November 20-22, 1978. 948

935 Novel complexes of rhodium(I) containing bridging SO₂ ligands. Sanger, A.R., Cowie, M., Dwight, S.K.; *Inorganica Chimica Acta* 31, L407-L409, 1978. 949

936 Electrical conductivity of aromatic and heteroaromatic compounds in solution. Speight, J.G., Penzes, S.; Chemistry and Industry, September 16, 729-731, 1978. 950

937 An empirical analysis of the creep of floating ice sheets. Beltaos, S., Lipsett, A.W.; Workshop on the Bearing Capacity of Ice Covers, National Research Council, Winnipeg, Manitoba, October 16-17, 1978, 124-138. 951

938 Field investigations on the response of floating sheets to moving loads. Beltaos, S.; Workshop on the Bearing Capacity of Ice Covers, National Research Council, Winnipeg, Manitoba, October 16-17, 1978, 1-13. 952

939 Metallurgical cokes from oxidized highly caking coals. Ignasiak, B.S., Carson, D., Jadernik, P., Berkowitz, N.; The Canadian Mining and Metallurgical Bulletin 1-5, 1979. 953

940 Real-time, computer-generated displays of radar data for aircraft coordination and hydrology. Humphries, R.G., Ramsden, J., Johnson, M.R., Barge, B.L.; 18th Conference on Radar Meteorology, Atlanta, Georgia, March 1978, 464-467. 941

Mixing processes in natural streams. Beltaos, S.; Transport Processes and River Modelling Workshop, November 1978, Burlington, Ontario. 942

Poisoning and regeneration of claus alumina catalysts. George, Z.M.; Canadian Journal of Chemical Engineering 56, 711-716, 1978.

Mixing characteristics of the Athabasca River below Fort McMurray - winter conditions. Beltaos, S.; Prepared for the Alberta Oil Sands Environmental Research Program by Transportation and Surface Water Engineering Division, Alberta Research Council, Alberta Oil Sands Environmental Research Program Report 40, 1-110, 1979.

Experimental control of black fly larvae (*simulium arcticum*) with methoxychlor in the Athabasca River: preliminary study. Beltaos, S., Gerard, R.; *Quaestiones entomologicae*, 1978.

Carbon-13 nuclear magnetic resonance studies of lipids and starch digestion in intact seeds. Chow, S., Elofson, R.M., MacTaggart, J.M.; Reprinted Agriculture and Food Chemistry 27(2), 435-438, 1979.

Major cleat trends in Alberta plains coals. Campbell, J.D.; The Canadian Mining and Metallurgical Bulletin, 72(802), 69-75, 1979.

The effects of surface mining of coal on water quality near Grande Cache, Alberta. Hackbarth, D.A.; Canadian Journal of Earth Science 16(6), 1242-1253, 1979.

Economics of solar heating in Alberta. McConaghy, D.J., Rachuk, T.W.; Preprint, Presented at the 29th Annual Technical Meeting of the Petroleum Society of the Canadian Institute of Mining and Metallurgy, Calgary, Alberta, June 1978, Paper Number 78-29-48, 11 pages.

The wavy aspect of a horizontal co-current air-water film flow and the transport phenomena. Toma, P., Pimsner, V.; Aerospace Department, Politechnical Institute, Bucharest and Alberta Research Council, Product Research and Development, Edmonton, Alberta, International journal Multiphase Flow 3, 273-283, 1977.

Development and use of a parameter for interpretation of results from in situ and laboratory coal gasifiers. Edwards, W.C.; AIChE Sessions on Kinetics and Simulation of In-Situ Hydrocarbon Processing, Houston, Texas, April 1-5, 1979.

The Alberta energy resources allocation model. McConaghy, D.J., Quon, D.; Canada Energy Modelling Conference, Vancouver, May 1978.

Tributary mixing characteristics using water quality parameters. Lipsett, A.W., Beltaos, S.; 4th National Hydrogeological Conference, Vancouver, May 7-8, 1979.

Measuring peak runoff at culverts on the interior plains. Doyle, P.F.; Proceedings, National Research Council, Associate Committee on Hydrology, Canadian Hydrology Symposium '79, Cold Climate Hydrology, Vancouver, May 10-11, 1979, 390-402.

954 Relationships between chemical structure and technological behavior of coal. Berkowitz, N.; Reprinted from Proceedings, Robert, A.; Welch Foundation Conferences on Chemical Research 22, Chemistry of Future Energy Resources, November 6-8, 1978, Houston, Texas. 965 Electron donor properties of catalysts and claus reaction. George, Z.M., Dudzik, Z.; 6th Canadian Symposium on Catalysis, Ottawa, Ontario, August 19-21, 1979.

955 Quinone-type oxygen in petroleum asphaltenes and resins. Speight, J.G., Moschopedis, S.E.; Fuel 58, 235, 1979. 966 Carbonyl complexes of palladium stabilized on phosphinated polymer supports. Sanger, A.R., Schallig, L.R., Tan, K.; *Ghie Inorganica Chimica Acta*, 35, L325-L327, 1979.

956 Mixing and effects of insecticides: a working hypothesis for an analytical model. Beltaos, S.; Control of black flies in the Athabasca River, Technical Report, an interdisciplinary study for the chemical control of *Similium arcticum* malloch in relation to the bionomics of biting flies in the protection of human, animal and industrial resources and its impact on the aquatic environment, March 1980, 97-122. 967 Same as 986.

957 Mixing of insecticide: one-dimensional analysis of methoxychlor concentration data. Beltaos, S., Charnetski, W.; Control of black flies in the Athabasca River, Technical Report, an interdisciplinary study for the chemical control of *Similium arcticum* malloch in relation to the bionomics of biting flies in the protection of human, animal and industrial resources and its impact on the aquatic environment, March 1980, 123-130. 968 Complex acids and their role in the stability of clay sludges from oil sands. Kessick, M.A.; *Clay and Clay Minerals*, 27(4), 301-302, 1979.

958 Mineralogical and engineering index properties of the basal McMurray Formation clay-shales. Scaife, D.W., Desseault, M.B.; *Canadian Geotechnical Journal*, Volume 16(2), 1979. 969 Information transfer and its relevance to oil sands and heavy oil technology. Radvanyi, H.; *Proceedings on the Future of Heavy Crude Oils and Tar Sands*, First International Conference, sponsored by the United Nations Institute for Training and Research (UNITAR), Alberta Oil Sands Technology and Research Authority, and the United States Department of Energy, Edmonton, June 4-12, 1979. Chapter 106, 850-852.

959 Alberta computerized inquiry system: A feasibility study. Townsend, V.S., Neilson, W.J.; *Proceedings of the 7th Annual Canadian Conference on Information Science*, Banff, Alberta, May 15, 1979, 54-66. 970 Structure and properties of oil sands clay tailings. Kessick, M.A.; *Journal of Canadian Petroleum Technology*, 18(1), 49-52, 1979.

960 Flow resistance of fragmented ice covers (ice jams). Beltaos, S.; *Proceedings, National Research Council, Associate Committee on Hydrology, Canadian Hydrology Symposium '79, Cold Climate Hydrology*, Vancouver, British Columbia, May 10-11, 1979, 95-126. 971 Weather rainfall measurements for operational streamflow forecasting. Humphries, R.G., Barge, B.L.; *3rd Conference on Hydrometeorology*, Bogota, Columbia, August 20-24, 1979.

961 Electron donor properties of claus reaction catalysts. George, Z.M., Dudzik, Z.; *Fourth International Conference on Heterogeneous Catalysis*, Warna, Bulgaria, October 2-5, 1979. 972 Weather radar rainfall measurements in a cool climate. Humphries, R.G., Barge, B.L.; *3rd Conference on Hydrometeorology*, Bogota, Columbia, August 20-24, 1979.

962 Adsorption of H_2S and SO_2 on zeolites studied by IR spectroscopy. George, Z.M., Tower, R.W., Karge, H.; *6th Canadian Symposium on Catalysis*, Ottawa, Ontario, August 19-21, 1979. 973 Monte Carlo simulation of hailpad networks. Wojtiw, L.; *7th Conference on Inadvertent and Planned Weather Modification*, Banff, Alberta, October 8-12, 1979.

963 Catalytic activity of dinuclear cationic complexes of rhodium and iridium. Sanger, A.R.; *6th Canadian Symposium on Catalysis*, Ottawa, Ontario, August 19-21, 7 pages, 1979. 974 Some simple covariates for evaluating a hail suppression project. English, M.; *7th Conference on Inadvertent and Planned Weather Modification*, Banff, Alberta, October 8-12, 1979.

964 Non-catalytic liquefaction of western Canadian coals. Ignasiak, B.S., Carson, D., Szladow, A.J., Berkowitz, N.; *American Chemical Society, Division of Fuel Chemistry*, Honolulu, Hawaii, April 2-6, 1979, Volume 24, Number 1, 40-51. 975 Application of geochemistry to the search for crude oil and natural gas. Hitchon, B.; *Introduction to Exploration Geochemistry*, 2nd edition, Applied Publishing Ltd., Calgary, Chapter 13A, 845-862. Original material from 1st edition reprinted, Chapter 13, 509-545, 1980.

965 The production of low-sulfur liquid and coke from Athabasca bitumen. Speight, J.G., Moschopedis, S.E.; *Fuel Processing Technology* 2, 295-302, 1979. 976 The Cretaceous-Tertiary boundary in south-central Alberta: Revision based on additional dinosaurian and microfloral evidence. Singh, C., Lerbekmo, J.F., Jarzen, D.M., Russell, D.A.; *Canadian Journal of Earth Sciences* 16(9), 1866-1869, 1979.

966 Late Wisconsinan glacial stratigraphy and history of south-eastern Manitoba. Fenton, M.M., Teller, J.T.; *Canadian Journal of Earth Sciences*, 1979. 977

979 Geology of the Athabasca oil sands. Mossop, G.D.; Science, 1979.

980 The relative economics of recovering and upgrading Alberta's hydrocarbon resources. Feick, J.E., McConaghy, D.J.; *Journal of Canadian Petroleum*, 19-26, 1976.

981 Petrochemicals from coal in Alberta. McConaghy, D.J., Feick, J.E.; 28th Annual Conference, Canadian Society Chemical Engineering, Halifax, Nova Scotia, October 1978.

982 Surface behavior of carbon supported ruthenium catalysts. Parkash, S., Gadallah, L.A., Chakrabarty, S.K.; *Carbon* 17, 403-406, 1979.

983 Zeolite as a potential claus catalyst. George, Z.M., Tower, R.W.; 7th International Zeolite Conference, Naples, Italy, June 1980.

984 Polarization and dual wavelength radar observations of the bright band. Humphries, R.G., Barge, B.L.; *IEEE Transactions on Geoscience Electronics*, Volume GE-17, Number 4, 1979.

985 Cationic binuclear A-frame complexes of rhodium(I) and iridium(I). Sanger, A.R., Mague, J.T.; *Inorganic Chemistry*, Volume 18, Number 8, 2060-2066, 1979.

986 Rainfall measurements by weather radar: Applications to hydrology. Barge, B.L., Humphries, R.G., Mah, S.J., Kuhnke, W.K.; *Water Resources Research* 15(6), 1380-1386, 1979.

987 Surface-active materials from Athabasca oil sands. Moschopedis, S.E., Schulz, K.F., Speight, J.G., Morrison, D.M.; *Fuel Processing Technology* 3, 55-61, 1980.

988 The solar and wind energy research program information centre. Beliveau, K.D.; Solar Energy of Canada Inc. Conference on Solar Energy - Bringing it down to earth, Charlottetown, Prince Edward Island, August 1979, 9 pages.

989 Processing of Alberta wind data and its application to wind energy system design. Howell, D.G.; Solar Energy Society of Canada Inc. Conference on Solar Energy - Bringing it down to earth, Charlottetown, Prince Edward Island, August 1979, 11 pages.

990 Some observations on the molecular 'nature' of petroleum asphaltenes. Speight, J.G., Moschopedis, S.E.; American Chemical Society, Division of Petroleum Chemistry, Preprints, 24(4), 910-923, 1979.

991 Investigation of nitrogen types in Athabasca bitumen. Moschopedis, S.E., Speight, J.G.; American Chemical Society, Division of Petroleum Chemistry. Preprints 24(4), 1007-1008, 1979.

992 Establishing a computerized databank for technology. Montgomery, T.M., Speight, J.G.; Presented, Division of Chemical Information, American Chemical Society, September 9-14, 1979.

993 Fe-Mg cation exchange thermobarometry of polymetamorphic rocks from the Precambrian Shield of north-eastern Alberta. Nielsen, P.A.; *Current Research, Part A, Geological Survey of Canada, Paper 79-1A*, 133-137, 1979.

994 Polarization and dual-wavelength radar observations of the bright band. Humphries, R.G., Barge, B.L.; *Institute of Electrical and Electronics Engineers Transactions on Geoscience Electronics*, G.E.; 17(4), 190-195, 1979.

995 Non-destructive solubilization of coal. Ignasiak, B.S., Carson, D., Gawlik, M.; *Fuel*, 58(11), 833-834, 1979.

996 Rapeseed oil meal as a nitrogenous substrate for microbial fermentation. Phillipchuk, G.E., Jackson, H.; *Journal of General and Applied Microbiology*, 25, 117-125, 1979.

997 Physical properties and surface characteristics of asphaltenes. Parkash, S., Moschopedis, S.E., Speight, J.G.; *Fuel* 58(12), 877-882, 1979.

998 Thermal decomposition of resins. Parkash, S., Moschopedis, S.E., Speight, J.G.; *Fuel* 59(1), 64-66, 1980.

999 Some aspects of research on coal liquefaction in Alberta. Ignasiak, B.S., Brown, R.A.S.; 29th Canadian Chemical Engineering Conference, Canadian Society for Chemical Engineering, Sarnia, Ontario, September 30-October 3, 1979.

1000 Groundwater flow in drainage basins and the generalized hydraulic theory of petroleum migration. Toth, J.; 26th International Geological Congress on Fossil Fuels and Hydrocarbons, Paris, France, July 1980.

1001 Pedogenesis and tephrochronology of loss-derived soils, Hinton, Alberta. Dumanski, J., Pawluk, S., Vucetich, C.G., Lindsay, J.D.; *Canadian Journal of Earth Sciences* 17(1), 52-59, 1980.

1002 Hydrocarbon synthesis and carbon dioxide adsorption on iron catalysts. Parkash, S., Chakrabarty, S.K.; *Fuel Processing Technology* 3, 63-70, 1980.

1003 The location of catalytic iron in reduced graphite ferric chloride. Parkash, S., Hooley, J.G.; *Journal of Catalysis* 62, 187-188, 1980.

1004 Geology of the Athabasca oil sands. Mossop, G.D.; *Science Reprint Series* 207, 145-152, 1980.

1005 Identification of rain and hail with polarization and dual wavelength radar. Barge, B.L., Humphries, R.G.; 19th Conference on Radar Meteorology, Miami Beach, Florida, April 15-18, 1980.

1006 Calculation of dual wavelength radar reflectivity ratios for non-rayleigh oblate spheroids. Barge, B.L., Humphries, R.G.; 19th Conference on Radar Meteorology, Miami Beach, Florida, April 15-18, 1980.

1007 Ion exchange and dewaterability of clay sludges. Kessick, M.A.; *International Journal of Mineral Processing* 6, 277-283, 1980.

1008 Regional aquifer parameters evaluated during mine depressurization in the Athabasca oil sands, Alberta. Hackbarth, D.A.; Canadian Geotechnical Journal 17(1), 131-136, 1980.

1009 Claus reaction and influence of electron donor and related properties of activated alumina catalysts. Tower, R.W., Dudzik, Z., George, Z.M.; Seventh International Congress on Catalysts, Tokyo, Japan, June-July 1980.

1010 Metal and metalloid amides. Sanger, A.R., Lappert, M.F., Power, P.P., Srivastava, R.C.; Ellis Horwood Ltd., West Sussex, England, 847, 1980.

1011 Dynamic tests and analysis of a massive pier subjected to ice forces. Montgomery, C.J., Lipsett, A.W.; 4th Annual Conference of Canadian Society of Civil Engineers, Winnipeg, Manitoba, May 1980.

1012 Pre-Quaternary microfossils - A guide to errors in radiocarbon dating. Manbudri, E.M.V., Teller, J.T., Last, W.M.; Geology 8(3), 123-126, 1980.

1014 Dynamic responses of bridge piers to ice forces. Lipsett, A.W., Montgomery, C.J., Gerard, R.; Canadian Journal of Civil Engineering 7(2), 345-356, 1980.

1015 Use of oil sands bitumen and its derivatives as hydrogen donors to coal. Moschopedis, S.E.; Fuel 59(1), 67, 1980.

1016 The relative hydrogen saturation factor and its use for material balance analysis of underground coal gasification. Edwards, W.C.; Canadian Journal of Chemical Engineering, Volume 59, June 1981.

1017 The anatomy of landslides. Cruden, D.M.; Canadian Geotechnical Journal 17(2), 295-300, 1980.

1018 On the polymeric nature of petroleum asphaltenes. Speight, J.G., Moschopedis, S.E.; Fuel 59(6), 440-442, 1980.

1019 Dithioether complexes of palladium(II): The relationship between ligand chain length and structure about palladium. Sanger, A.R., Weiner-Fedorak, J.E.; Inorganica Chimica Acta, 42, 101-103, 1980.

1020 Meso-phase behavior in oil sand bitumen pitch. Parkash, S., Berkowitz, N.; Fuel 59(6), 375-379, 1980.

1021 Relationship of primer specificity of fatty acid de novo synthetase to fatty acid composition in 10 species of bacteria and yeasts. Kaneda, T., Smith, E.J.; Canadian Journal of Microbiology 26(8), 893-898, 1980.

1022 Determining surface area. Parkash, S.; Chemtech 10, 572-576, 1980.

1023 Demands on catalysts in coal liquefaction. Parkash, S.; Chemistry in Canada, 32(8), 17-20, 1980.

1024 Pore structures and surface areas of precipitated iron oxide catalysts. Parkash, S., Kotanigawa, T., Chakrabarty, S.K.; Fuel Sciences Divison Presented, 6th Canadian Symposium on Catalysis, August 19-21, 1979, 105-112.

1025 Facies control on bitumen saturation in the Athabasca oil sands. Mossop, G.D.; Facts and Principles of World Petroleum Occurrence, Canadian Society of Petroleum Geologists, Memoir 6, 609-632, 1980.

1026 Network communications interface for the ACES project. Townsend, V.S., Neilson, W.J.; Proceedings 5th International Conference on Computer Communications, Atlanta, Georgia, October 27-30, 714-719, 1980.

1027 Coal gasification technologies. Brown, R.A.S.; Proceedings, 94th Annual Congress and Annual Conference, Engineering Institute of Canada and the Canadian Society for Mechanical Engineering, Calgary, Alberta, April 23-25, 1980, 386-392.

1028 Sorptive and activity behavior of iron minerals for hydrocarbon synthesis. Parkash, S., Kretschmer, H.O., Chakrabarty, S.K.; Fuel Processing Technology 4(1981), 31-41.

1029 Evaluation of the relative damaging effects of wide base tire loads on pavements. Christison, J.T., Shields, B.P.; Roads Transportation of Canada, RTAC Forum, Vol. 4, No. 1, pages 65-71, 1980.

1030 Mechanistic studies to determine catalytic sites in intercalated graphite ferric chloride. Parkash, S., Hooley, J.G.; Reprint 3rd International Carbon Conference, Baden Baden, West Germany, 1980, 124-127.

1031 A rock labyrinth in the front ranges of the Rockies, Alberta. Simmons, J., Cinden, D.; Canadian Journal of Earth Sciences, September 1980.

1032 Use of heavy oils and derivatives in processing coal. Moschopedis, S.E., Hawkins, R.W., Fryer, J.F., Speight, J.G.; Fuel, Volume 58, September 1980, 647-653.

1033 UCG studies in a large block simulator. Greenfeld, M.; 6th Underground Coal Conversion Symposium, Shangri-La, Oklahoma, July 13-17, 1980.

1034 Techniques for SEM and EDS characterization of oil sands. Kramers, J.W., Rottenfusser, B.A.; Scanning Electron Microscopy 4, 97-102, 1980.

1035 Factors affecting mineralogy, porosity, and permeability within the Peace River oil sands. Rottenfusser, B.A.; Applied Oil Sands Geoscience, Edmonton, Alberta, June 11-13, 1980.

1036 Computer network performance bibliography. Townsend, V.S., Maydell, U.M.; University of Alberta, Department of Computing Sciences, Technical Report TR 80-2, 367 pages, 1980.

1037 User's Manual for the NETWORK'S bibliographic database on computer communication network performance analysis. Townsend, V.S., Maydell, U.M.; University of Alberta Department of Computing Sciences, Technical Report TR 80-3, 39 pages, 1980.

1038 Case studies of a permanent deformation subsist for full-depth asphalt concrete pavement. Christison, J.T., Uzan, J.; Annual Meeting of Technologists, Victoria, November 1980.

1039 Opportunities for catalysis in fuels research in Canada. Habgood, H.W.; Chemistry in Canada 32(10), 16-20, 1980.

1040 The syntheses and mass spectra of some N-substituted ferrocenylmethyl adenines. Chen, S.C.; Journal of Organometallic Chemistry 202, 183-189, 1980.

1041 Geometry of folds in granitoid rocks of northeastern Alberta. Langenberg, C.W., Ramsden, J.; Tectonophysics, 66 (1980) 269-285.

1042 Polymeric structure of coal. 3. Re-examination of the role of ether bonds in reduction of molecular weight of a low-rank vitrinite treated with hydrogen donor. Carson, D., Ignasiak, B.S.; Fuel, 59, 757-761, 1980.

1043 The results of the Alberta Hail Project. Goyer, G.G., Renick, J.H.; 3rd WMO Scientific Conference on Weather Modification, Clermont, Ferrand, France, July 21-25, 1980.

1044 Freboldiceras from the Grand Rapids Formation of north central Alberta. Stelck, C.R., Kramers, J.W.; Bulletin of Canadian Petroleum Geology, Volume 28, Number 4, December 1980.

1045 The Chipewyan red granite - A building stone prospect. Godfrey, J.D.; Canadian Institute of Mining and Metallurgy, Special Volume, Geology of Industrial Mineral Deposits, 1980.

1046 A simple method to characterize feed coals for liquefaction. Chakrabarty, S.K.; Canadian Journal of Chemistry, 59(10), 1487-1489, 1981.

1047 Oxidation of coal: A mechanistic puzzle. Chakrabarty, S.K.; American Chemical Society, Division of Fuel Chemistry, Atlanta, Georgia, March 29-April 3, 1981, 26(1), 10-15.

1048 A comparison of the hydrogenation catalytic activity of bromo- and chloro-bridged A-Frame complexes of rhodium(I). Sanger, A.R.; 7th Canadian Symposium on Catalysis, 30th Canadian Chemical Engineering Conference, Edmonton, Alberta, October 19-22, 1980, 67-73.

1049 The use of heavy oils to upgrade coal. Moschopedis, S.E., Speight, J.G.; Preprints, Canadian Society for Chemical Engineering, 30th Canadian Chemical Engineering Conference, Volume IV: Oil Sands, Coal and Energy Modelling, pages 1260-1270, Edmonton, Alberta, October 19-22, 1980.

1051 Comparison of results from their acceptance and hydrogeological tests associated with underground coal gasification. Edwards, W.C., Roehl, A.A., Vogwill, R.I.J.; Canadian Geotechnical Journal 18(3), 443-447, 1981.

1052 Reply to Kinji Magara including a discussion of the concept and phenomenon of the tensiometer effect in cross-formational gravity-flow systems of formation fluids. Toth, J.; Bulletin of Canadian Petroleum Geology, Volume 29, Part 1, 135-142, 1980.

1053 Recovery of vanadium and nickel from oil sands coke ash. Schneider, L.G., George, Z.M.; Extraction Metallurgy 1981, Institution of Mining and Metallurgy, London, England, 21-23, September 1981.

1054 Long-term effects of a river diversion on the regime of the Milk River. McLean, D.G., Beckstead, G.R.; 5th Canadian Hydrotechnical Conference - Canadian Society for Civil Engineering, Fredericton, New Brunswick, May 26-28, 1981.

1055 Rhodium (I) complexes with thioethers, dithioethers, or phosphinoalkyl-thioethers. Sanger, A.R., Weiner-Fedorak, J.E., Lobe, C.J.; Inorganica Chimica Acta, Elsevier Sequoia, S.A., Volume 53, Number 3, 423-424, 1981.

1056 Estimation of the ice forces from dynamic response. Lipsett, A.W., Montgomery, C.J.; IAHR International Symposium on Ice, Quebec City, Quebec, July 1981.

1057 Sodium hydroxide-assisted desulfurization of a petroleum fluid coke. George, Z.M., Schneider, L.G.; Fuel, Volume 61, December 1982.

1058 Ice force measurements on an inclined bridge pier. Lipsett, A.W., Girard, R.; Canadian Society of Civil Engineering Conference, Fredericton, New Brunswick, May 26-27, 1981.

1059 Surface characteristics and surface behaviour of polymer carbons. V. Interaction of polymer carbons with bromine in aqueous solutions. Parkash, S., Bansal, R.C., Dhami, T.L.; Carbon V, Volume 18, 395-398, 1981.

1060 Identification of nitrogen functional groups in Athabasca bitumen. Moschopedis, S.E., Hawkins, R.W., Speight, J.G.; Fuel 60, 397-400, 1981.

1061 A comparison of AgI and CO₂ seeding effects in Alberta cumulus clouds. English, M.; Journal of Applied Meteorology, May 1981.

1062 Complexes of Rhodium (I) with carbon monoxide, bis(diphenylphosphino) methane, or bid(diphenylarsino) methane, and various anionic liquids. Sanger, A.R.; Journal of the Chemical Society, J.C.S.; Dalton Transactions, 228-233, 1981.

1063 Stereoselective synthesis of chaulmoogric acid and related fatty acids from 2 (+/-) cyclopentenecarboxylic acid by *Bacillus subtilis* (ATCC 7059 Clone). Kaneda, T.; Biochemical and Biophysical Research Communications, Volume 99, Number 4, pages 1226-1229, April 1981.

1064 A simple synthesis of (E)-3-formylbut-2-enenitrile and its use as a precursor of isotope-labelled zeatin and (+/-) dihydrozeatin. Chen, S.C.; Experientia, Volume 37, pages 543-544, 1981.

1065 Solubilization of coals by non-reductive alkylation in liquid ammonia. Gawlik, M., Cyr, N., Carson, D., Ignasiak, B.S.; American Chemical Society, Division of Fuel Chemistry, Structure and Reactivity of Coal and Char Fuels from Biomass, Volume 25, Number 4, San Francisco, California, August 24-29, 1980.

1066 Structural characterization of solubilized coal by Carbon 13 and Proton NMR. Cyr, N., Gawlak, M., Ignasiak, B.S., Carson, D.; 63rd Canadian Chemical Conference, Ottawa, Ontario, June 8-11, 1980.

1067 Alberta experience with sulfur extended asphalt pavements. Shields, B.P., Christison, J.T.; Sulphur 1981, Calgary, Alberta, May 25-28, 1981.

1068 Coking of bitumen from Athabasca oil sands. 1. Effect of calcium hydroxide and other reagents. George, Z.M., Schneider, L.G., Kessick, M.A.; Fuel 61, February 1983.

1069 Structure and chemistry of coal - A search for a typical coal molecule. Chakrabarty, S.K.; World Congress of Future Sources of Organic Raw Materials, Chemrawn One, International Union of Pure and Applied Chemistry, Toronto, Ontario, July 10-13, 1978.

1070 Temporary hydrologic changes in groundwater after deforestation for pioneer homesteading. Ryckborst, H.; Journal of Hydrology, Volume 53, No. 1/2 (September 1981), 117-113.

1071 Precambrian metamorphic conditions and crustal evolution, northeastern Alberta, Canada. Langenberg, C.W., Godfrey, J.D., Nielsen, P.A., Baadsgaard, H.; Precambrian Research 16, (1981) 171-193.

1072 Climatology of severe rainstorms in Alberta, Canada. Wojtiw, L., Verschuren, J.P.; American Meteorological Society: Fourth Conference on Hydrometeorology, Reno, Nevada, October 7-9, 1981.

1073 Coal conversion research. du Plessis, M.P.; Chemistry, Metals and Metallurgical Bulletin, Volume 74, Number 826, February 1871.

1074 Coal utilization trends in Alberta. du Plessis, M.P.; 64th Annual Chemical Institute of Canada Conference, Halifax, Nova Scotia, June 2-3, 1981.

1075 Speculation on molecular environment of reactive hydrogen atoms in coal. Gawlak, M., Cyr, N., Carson, D., Ignasiak, B.S.; 64th Annual Chemical Institute of Canada Conference, Halifax, Nova Scotia, June 2-3, 1981.

1076 Characterization of coal for liquefaction processes. Chakrabarty, S.K.; 64th Annual Chemical Institute of Canada Conference, Halifax, Nova Scotia, June 2-3, 1981.

1077 Comparative studies on the liquefaction and solubilization reactivity of subbituminous and bituminous coals. Ignasiak, B.S., du Plessis, M.P., Gawlak, M., Carson, D.; 64th Annual Chemical Institute of Canada Conference, Halifax, Nova Scotia, June 2-3, 1981.

1078 The evaluation of Alberta coals for thermal and conversion processes. Fryer, J.F.; Proceedings 64th Annual Chemical Institute of Canada Conference, Halifax, Nova Scotia, 530-536, June 2-3, 1981.

1079 Use of synthesis gas in co-processing of coal-bitumen and derivatives. Moschopedis, S.E., Hawkins, R.W.; Fuel 60(12), 1170-1172, 1981.

1080 Complex acids and their interaction with clays in oil sands slimes. Kessick, M.A.; Third International Conference on Surface and Colloid Science, August 20-25, 1979, Stockholm, Sweden, in Surface Phenomena in Enhanced Oil Recovery.

1081 Spatial variability and error effects in global kinetic energy and total energy of hailstorms in Alberta, Canada. Wojtiw, L., Davis, A.; Eighth Conference on Inadvertent and Planned Weather Modification, American Meteorological Society, Reno, Nevada, October 5-7, 1981.

1082 Climatology of hailfalls and hailswaths in central Alberta, Canada. Wojtiw, L.; Eighth Conference on Inadvertent and Planned Weather Modification, American Meteorological Society, Reno, Nevada, October 5-7, 1981.

1083 The origin of drop hail embryos in an Alberta hailstorm. Krauss, T.W.; Eighth Conference on Inadvertent and Planned Weather Modification, Reno, Nevada, October 5-7, 1981.

1084 A comparison of AgI and CO₂ seeding effects in Alberta cumulus clouds (II). English, M.; Eighth Conference on Inadvertent and Planned Weather Modification, Reno, Nevada, October 5-7, 1981.

1085 Molecular sieve properties of polymer carbons. 1. Adsorption of nitrogen and carbon dioxide. Bansal, R.C., Dhami, T.L., Parkash, S.; Indian Journal of Chemistry 19A(12), 1146-1148, 1980.

1086 Radar reflectivity seeding signatures. Marwitz, J.D.; 20th Conference on Radar Meteorology, American Meteorological Society, Boston, Massachusetts, November 30-December 3, 1981.

1087 Effects of process parameters of the liquefaction of coal using heavy oils and bitumens. Moschopedis, S.E., Hawkins, R.W., Speight, J.G.; Fuel Processing Technology 5, 1982, 213-228.

1088 ESR measurements on asphaltene and resin fractions from various separation methods. Schulz, K.F., Selucky, M.; Fuel, Volume 60, pages 951-956, October 1981.

1089 Chemical evolution of groundwater in a drainage basin of Holocene Age, east-central Alberta. Canada. Wallick, E.I.; Journal of Hydrology, 54, 245-283, 1981.

1090 A field technique to directly measure river bank erosion. Hudson, H.R.; Canadian Journal of Earth Sciences, Volume 19, Number 2, 381-383, 1981.

1091 Investigation in the use of heavy oils and derivatives to process coal. Moschopedis, S.E., Hawkins, R.W., Speight, J.G.; American Chemical Society, Division of Fuel Chemistry, Volume 26(3), page 31, 1981.

1092 Chemical constituents in wild oats (*Avena fatua*) hulls and their effects on seed germination. Elofson, R.M., Chen, F.S., MacTaggart, J.M.; Canadian Journal of Plant Science, January 1982.

1093 Terminal reactions in the anaerobic digestion of animal waste. Boone, D.R.; Applied and Environmental Microbiology, January 1982.

1094 Basinal flow of groundwater and its relevance to hydrocarbon exploration. The Generalized Hydraulic Theory of Petroleum Migration. Toth, J.; 26e Congres Geologique International, Section XIV, Paris, France, June 1980, 175-238.

1095 Hail embryo type in Alberta storms. English, M., Cheng, L.; American Meteorological Society, 12th Conference on Severe Local Storms, San Antonio, Texas, January 11-15, 1982.

1096 Precipitation processes within an Alberta supercell hailstorm. Krauss, T.W., Marwitz, J.D.; American Meteorological Society, 12th Conference on Severe Local Storms, San Antonio, Texas, January 11-15, 1982.

1097 Hailstone concentration in Alberta storms. Cheng, L., English, M.; American Meteorological Society, 12th Conference on Severe Local Storms, San Antonio, Texas, January 11-15, 1982.

1098 A radar hailpad relationship for hailstorms with low to moderate damage in Alberta. Wojtiw, L., Ewing, C.G.; American Meteorological Society, 12th Conference on Severe Local Storms, San Antonio, Texas, January 11-15, 1982.

1099 Anomalous effects in the character of the carbonyl absorption (CA 170 centimetres⁻¹) in the infrared spectra of petroleum resins and asphaltenes. Speight, J.G., Moschopedis, S.E.; American Chemical Society, Division of Petroleum Chemistry, Volume 26, page 917, 1981.

1100 Effect of calcium hydroxide upon Athabasca tar sands upgrading. George, Z.M., Kessick, M.A.; Second Unitar Conference, Caracas, Venezuela, February 1982.

1101 Patterns of hailstone embryo type in Alberta hailstorms. English, M.; Journal de Recherches Atmospheriques, VIII Conference Internationale sur la Physique des Nuages, Universite de Clermont, Campotroux, Lannemezan, 1981.

1102 Alberta: 1982 Update in the Keystone Coal Industry Manual. Campbell, J.D.; Keystone Coal Industry Manual 1982 Update.

1103 The search and selection of catalysts for coal liquefaction. Parkash, S.; Second World Conference of Chemical Engineering, Montreal, Quebec, Proceedings: Volume 2, 445-449, 1981.

1104 Changes in pore structure of precipitated iron oxide catalysts during pretreatment and hydrocarbon synthesis reaction. Parkash, S., Chakrabarty, S.K., Kotanigawa, T.; Fuel Processing Technology 5, 203-212, 1982.

1105 On the molecular nature of petroleum asphaltenes. Moschopedis, S.E., Speight, J.G.; Advances in Chemistry Series, Number 195, Chemistry of Asphaltenes, 1-15, American Chemistry Society, 1981.

1106 Hydrogenation and hydroformylation reactions using binuclear diphosphine-bridged complexes of rhodium. Sanger, A.R.; Homogeneous Catalysis with Metal Phosphine Complexes, Plenum Publishers, July-September 1982.

1107 Energy databases in Alberta. Radvanyi, H., Beliveau, K.D.; Online Journal, National Online Meeting, New York, March 30-April 1, 1982.

1108 Determination of active metal sites in metal oxide catalysts by selective gas chemisorption. Parkash, S.; The Canadian Journal of Chemical Engineering, February 1982.

1109 Interaction of polyacrylamide with heavy oil surfactants in the presence of calcium ion. Kessick, M.A.; Fuel 60(12), 1168-1170, 1981.

1110 Preliminary observations on the geological origins of Beaver River sandstone. Fenton, M.M., Ives, J.W.; Archaeology in Alberta, 1981, Archaeological Survey of Alberta, Occasional Paper 7.

1111 Soda-AQ pulps from hardwoods - physical properties and bleachability. Cyr, N., MacLeod, J.M.; 68th Annual Meeting, Technical Section, Canadian Pulp and Paper Association, Montreal, Quebec, January 28-29, 1982.

1112 The role of acid-base in the preparation of Al₂O₃ supported platinum catalysts. Parkash, S., Chakrabarty, S.K., Kotanigawa, T., Berkowitz, N.; Journal of Fuel Processing Technology 131, 1982.

1113 Correlation of the hydrogenation catalytic activity of dinuclear complexes of rhodium (I) with the formation of carbonyl-bridged complexes. Sanger, A.R.; Canadian Journal of Chemistry, Volume 60, Number 11, 1982.

1114 Apparent molal heat capacities and volumes of aqueous hydrogen sulfide and sodium hydrogen sulfide near 25°C: The temperature dependence of H₂S ionization. Tremaine, P.R., McCurdy, K.G., Barbero, J.A.; Canadian Journal of Chemistry, Volume 60, Number 14, 1872-1180, 1982.

1115 Petroleum coke desulfurization. George, Z.M.; Petroleum Coke Utilization Conference, South America, April 21-30, 1982.

1116 Selective doping of a carbon substrate transition-metal ammonia catalyst. Gadallah, F.F., Elofson, R.M., Mohammed, P., Painter, T.; 3rd International Symposium of Scientific Bases for the Preparation of Heterogeneous Catalysis, Belgium, September 6-9, 1982.

1117 Aspects of the hydrologic and sediment regimes of denuded muskeg areas. Hudson, H.R.; Proceedings, Canadian Society of Civil Engineering Conference, Edmonton, Alberta, May 1982.

1118 The evolution of radar echo in a seeded cloud. English, M., Marwitz, J.D.; Atmosphere-Ocean, Volume 20, Number 1, 1982.

1119 In-situ research at the Alberta Research Council. Redford, D.A., Exall, D., Boon, J.A., Reichert, C.; 27th Canadian Chemical Engineering Conference, Sarnia, Ontario, September 30-October 3, 1982.

1120 Microscopic structure of the Athabasca oil sands. Takamura, K.; Canadian Journal of Chemical Engineering, August 1982.

1121 A cyclohexanecarboxylic acid utilizing yeast, isolation, identification, nutritional characteristics. Kaneda, T., Hasegawa, Y., Shiguchi, K., Obata, H., Tokuyama, P.; Canadian Journal of Microbiology, August 1982.

1122 Acidity and chemical composition of precipitation in central Alberta, 1977-1978. Klemm, R.G., Gray, J.M.L.; Acid Forming Emissions in Alberta and Their Ecological Effects, Edmonton, Alberta, March 9-12, 1982.

1123 Recovery of residual bitumen from oil sands sludges. Kessick, M.A., St. Denis, C.E.; Canadian Journal of Chemical Engineering, 1982.

1124 Upgrading decayed aspen for chemical pulping. Cyr, N., MacLeod, J.M., Berlyn, R., Gooding, R.; 1982 Spring Conference of Canadian Pulp and Paper Association Technical Section, Jasper, Alberta, May 1982.

1125 Upgrading of delayed and fluid coke from oil sands by desulfurization. Schneider, L.G., George, Z.M., Hall, E., Tollefson, T.L.; Canadian Journal of Chemical Engineering, June 1982.

1126 Trace fossil nomenclature and the Planolites -Palaeophycus dilemma. Pemberton, S.G., Freui, B.; Journal of Palaeontology, July 1982.

1127 Ichnology of the Athabasca tar sands. Pemberton, S.G., Mossop, G.D., Flach, P.; Science, Volume 217, 825-827, 1982.

1128 The role of surfactant additives in the in situ recovery of bitumen from oil sands. Isaacs, E.E., Prowse, D.R., Rankin, J.P.; Journal of Canadian Petroleum Technology, Volume 21, Number 3, 1982.

1129 Injection of silver iodide from cloud seeding to the atmosphere of central Alberta. Gray, J.M.L., Goyer, G.G.; Alberta Environment, Research Management Division Publication 83/20, 1982.

1130 Ruthenium complexes containing $\text{Ph}_2\text{PCH}_2\text{CH}_2\text{SPh}$ as a mono- or bidentate liquid or both. Sanger, A.R., Day, R.W.; Inorganica Chimica Acta, Volume 62, Number 2, 1982.

1131 Stratigraphic traps in channel sandstones in the Upper Mannville (Albian) of east-central Alberta: Discussion. Wightman, D.M., Tilley, B.J., Last, W.M.; Bulletin of Canadian Petroleum Geology, Volume 29, Number 4, 1982.

1132 Carbon 13 NMR spectra of zeatin and related compounds. Chen, S.C., Cyr, N.; Agricultural and Biological Chemistry, Number 9, 1982.

1134 SO_x control from oil sands coke. George, Z.M., Kessick, M.A.; Canadian Chemical Engineering Conference, Vancouver, British Columbia, October 1982.

1135 Aspects of the suspended sediment regime of an intermediate size - eastern slopes drainage basin. Hudson, H.R.; Canadian Hydrology Symposium, Fredericton, New Brunswick, June 14-15, 1982.

1136 Freeze-up observations and aspects of the ice anchor on the Bow River near Calgary. Andres, D., Fonstad, G.D.; Workshop on the Hydraulics of Ice-Covered Rivers, Edmonton, Alberta, June 1-2, 1982.

1137 Nucleation frazil production during the supercooling period. Andres, D.; Workshop on the Hydraulics of Ice-Covered Rivers, Edmonton, Alberta, June 1-2, 1982.

1138 Search for an inexpensive method of coal liquefaction. Chakrabarty, S.K.; Pan-Pacific Synfuel Conference, Tokyo, Japan, November 19-21, 1982.

1139 Chaperone participation in three-body ion association reactions. The systems $\text{COH} + \text{CO} = (\text{CO})_2\text{H}$ and $\text{N}_2\text{H} + \text{N}_2 = (\text{N}_2)_2\text{H}$. Blades, A.T., Kebarle, P.; Journal of Chemistry and Physics, Vol.78, No.2, 783-789, 1983.

1140 Fast quantitative analysis of coal-derived liquids by thin layer chromatography with flame ionization detection. Selucky, M.; Analytical Chemistry, 1983, Number 55, 141.

1141 Coal conversion research program at the Alberta Research Council. du Plessis, M.P.; Journal of Canadian Petroleum Technology, August 1982.

1142 Liquefaction characteristics of Alberta subbituminous coals. du Plessis, M.P.; CIM 2nd Technical Conference on Western Canadian Coals, 1982.

1143 Structure characterization of non-reductively ethylated coal by carbon-13 and proton NMR. Cyr, N., Gawlak, M., Carson, D., Ignasiak, B.S.; Fuel, Vol.62, 412-416, April 1983.

1144 Modelling of liquefaction reactors. Ozum, B., Gibb, W.J., du Plessis, M.P.; 32nd Canadian Chemical Engineering Conference, Vancouver, British Columbia, October 3-6, 1982.

1145 Evaluation of pyrolysis of a subbituminous coal. Chakrabarty, S.K., du Plessis, M.P.; 32nd Canadian Chemical Engineering Conference, Vancouver, British Columbia, October 3-6, 1985.

1146 A mathematical model for orientation data from macroscopic conical folds. Langenberg, C.W., Kelker, D.; Mathematical Geology, Volume 14, Number 4, 1982.

1147 Hailstone concentration and size at the ground and at the melting level. Cheng, L., English, M.; Conference on Cloud Physics, Chicago, Illinois, November 15-17, 1982.

1148 Carbonization and briquetting of Alberta coals. Stansfield, E.; Transactions, Volume XL, 1937, 35-44, Annual Western Meeting, Edmonton, Alberta, September 1936.

1149 Principles in the briquetting of coking and non-coking bituminous coals. Stansfield, E., Lang, W.A.; Proceedings of the Second International Conference on Bituminous Coal, November 19-24, 1928, Volume 1.

150 The classification of Canadian coals. Stansfield, E., Sutherland, J.W.; Canadian Mining and Metallurgical Bulletin, from Transactions of the Canadian Institute of Mining and Metallurgy for 1929.

151 The composition and classification of Canadian coal. Stansfield, E.; Fuel and Coal Symposium, McGill University, Montreal, October and November, 1931.

152 A study of the chemical composition of particulate matter and aerosols over Edmonton. Klemm, R.G., Gray, J.M.L.; RMD Report 82/9, Alberta Environment.

153 Quaternary stratigraphy and history in the southern part of the Lake Agassiz Basin. Fenton, M.M., Moran, S.R., Teller, J.T., Clayton, L.; Geological Association of Canada Special Paper 26, 49-74, 1982.

154 The aging of oil sand. Wallace, D., Starr, J.; Confab '82, Saratoga, Wyoming, July 20-23, 1982.

155 Bedload and size distribution in paved gravel-bed streams - a discussion. Hudson, H.R.; Journal of Hydraulics: American Society of Civil Engineers, 1982.

156 Regeneration of poisoned claus alumina catalyst. Influence of electron donor property. George, Z.M., Schurek, M.M.; 1982 Annual American Chemical Society Meeting (Recovery of Spent Catalysts).

157 Aspects of the hydrologic and sediment regimes of the Muskeg River Basin and consequences of vegetation removal. Hudson, H.R.; Research Management Division, Alberta Environment, Report Number 82-9204, 1982.

158 The co-processing of heavy oil and coal. Moschopedis, S.E., Speight, J.G.; 32nd Canadian Chemical Engineering Conference, Volume I, Vancouver, British Columbia, October 3-6, 1982.

159 Quaternary stratigraphy of the Canadian prairies. Fenton, M.M.; Geological Survey of Canada Paper 84-10, 57-68, 1984.

160 Proximate and ultimate analysis of coal and products from coal liquefaction and pyrolysis processes. Murray, C., Iacchelli, A., Selucky, M.; 14th Annual Symposium on Canadian Mineral Catalysts, Thunder Bay, Ontario, October 19-21, 1982.

161 Separation of helium from natural gas. Habgood, J.W., Pan, C.Y.; A Collection of Technical Papers on Industrial Utilization of Gas Separation Technologies and Membranes with Emphasis on Oxygen Separation and Enrichment Technologies, edited by Tsutomu Makagawa, Professor, Meiji University.

1162 A relationship between hailstone concentration and size. Cheng, L., English, M.; Journal of Atmospheric Sciences, Vol. 40, No. 1, January 1983, pages 204-213.

1163 Salt and gypsum in Alberta. Hamilton, W.M.; CIM Bulletin, Volume 75, Number 846, 73-89, October 1982.

1164 Industrial minerals of the Canmore Corridor, Alberta. Fox, J.C.; CIM 83rd Annual General Meeting, Calgary, Alberta, May 7, 1981.

1165 Reactivity of char from subbituminous coals. Parkash, S., du Plessis, M.P.; Proceedings, 32nd Canadian Chemical Engineering Conference, Volume I, 452-457, 1982.

1166 Liquefaction characteristics of Alberta subbituminous coals. du Plessis, M.P., Gawlak, M., Moschopedis, S.E., Parkash, S., Lewkowicz, L., Ignasiak, B.S.; Proceedings, 32nd Canadian Chemical Engineering Conference, Volume I, 505-513, 1982.

1167 Modelling of liquefaction reactors. Ozum, B., Gibb, W.J., du Plessis, M.P.; Proceedings, 32nd Canadian Chemical Engineering Conference, Volume I, 514-525, 1982.

1168 Evaluation of pyrolysis of a subbituminous coal. Chakrabarty, S.K., du Plessis, M.P.; Proceedings, 32nd Canadian Chemical Engineering Conference, Volume I, 556-565, 1982.

1169 Alberta. Hamilton, W.N.; Industrial Minerals of Canada, August 1981.

1170 Facies of the McMurray Formation, Athabasca Oil Sands Deposit. Flach, P., Mossop, G.D.; Canada's Giant Hydrocarbon Reservoirs, Calgary, Alberta, June 1982.

1171 Facies of the Gething Formation, Peace River Oil Sands Deposit. Rottenfusser, B.A.; Canada's Giant Hydrocarbon Reservoirs, Calgary, Alberta, June 1982.

1172 The Grosmont Project: Evaluation of a bitumen-bearing Paleozoic carbonate in northern Alberta. Harrison, R.S.; Canada's Giant Hydrocarbon Reservoirs, Calgary, Alberta, June 1982.

1173 Metabolism of labelled indole-3-lactic acid for suspension culture of *nicotiana tabacum*. Chen, S.C.; Proceedings of the 1st International Congress of Tissue and Cell Culture, Tokyo, Japan, 11-16 July, 1982.

1174 Hydraulic roughness of freeze-up accumulations: North Saskatchewan River through Edmonton. Andres, D., Gerard, R.; Workshop: Hydraulics of Ice-Covered Rivers, Edmonton, Alberta, June 1982.

1175 Application of fluid-rock reaction studies to in situ recovery from oil sand deposits, Alberta, Canada - I. Aqueous phase results for an experimental/statistical study of water-bitumen-shale reactions. Hitchon, B., Boon, J.A.; *Geochimica et Cosmochimica Acta*, Volume 47, Number 2, 235-248, February 1983, Pergamon Press.

1176 Application of fluid-rock reaction studies to in situ recovery from oil sands deposits, Alberta, Canada - II. Mineral transformations during an experimental/statistical study of water-bitumen-shale reactions. Hitchon, B., Boon, J.A.; *Geochimica et Cosmochimica Acta*, Volume 47, Number 2, 249-257, February 1983, Pergamon Press.

1177 Alberta: 1983 Update in the Keystone Coal Industry Manual. Campbell, J.D.; *Keystone Coal Industry Manual*, 1983 Edition, McGraw-Hill Company, New York.

1178 A mixed-culture fermenter for simulating methanogenic digesters. Boone, D.R.; *Applied and Environmental Microbiology*, Vol. 48, No. 1, July 1984, 122-126.

1179 Effects of growth substrates on fatty acids composition of *corynebacterium cyclohexanicum*. Kaneda, T.; *Canadian Journal of Microbiology*, April 1983.

1180 The crystal structure of benzenediazonium tetrafluoroborate, $C_6H_5N_2 + BF_4^-$. Elofson, R.M., Cygler, M., Przybylska, M.; *Canadian Journal of Chemistry*, Volume 60, Number 22, 2852, 1982.

1181 An evaluation of select bed load formulae in a steep, gravel-bed river. Hudson, H.R., 6th Canadian Hydrotechnical Conference, Ottawa, Ontario, June 2-3, 1983.

1182 Continued research on geological sources of Beaver River sandstone. Fenton, M.M., Ives, J.W.; Occasional Paper 21, Archaeological Survey of Alberta, 1983.

1183 Modelling the circulation and sediment distribution in the Athabasca Delta area. Harrington, R.A.; Research Management Division, Alberta Environment, Report Number 81-23, 1983.

1184 A practical approach to drilling program management. Bosman, A.; *Canadian Mining Journal*, 49-51, December 1982.

1185 Natural groundwater recharge in an upland area of central North Dakota, U.S.A. Moran, S.R., Rehm, B.W., Groenewold, G.H.; *Journal of Hydrology* 59 (1982), 293-314.

1186 Glacier-bed landforms of the prairie region of North America. Moran, S.R., Fenton, M.M., Andriashuk, L.D., Clayton, L., Hooke, R.L.; *Journal of Glaciology*, Volume 25, Number 93, 457-476, 1980.

1187 The hydrologic response of aquifers at surface-mine sites in western North Dakota. Moran, S.R., Cherry, J.A.; *Canadian Geotechnical Journal*, Volume 18, Number 4, pages 543-565, 1983.

1188 Spoil hydrology and hydrochemistry at the Battle River site in the Plains of Alberta. Moran, S.R., Trudell, M.R.; 1982 Symposium on Surface Mining Hydrology, Sedimentology and Reclamation, University of Kentucky, December 5-10, 1982.

1189 Hydrothermal chemistry applied to in situ bitumen recovery. Tremaine, P.R., Isaacs, E.E., Boon, J.A.; *Chemistry in Canada*, Volume 34, 29-33, April 1983.

1190 Erosional processes and sediment yield of a typical eastern slopes drainage basin in southwest Alberta. Hudson, H.R.; *Soil Erosion and Land Degradation Conference*, Saskatoon, Nov.29-Dec.1, 1983.

1191 Interfacial tension behaviour of Athabasca bitumen/aqueous surfactant systems. Isaacs, E.E., Smolek, K.; *Canadian Journal of Chemical Engineering*, Volume 61, Number 2, April 1983.

1192 Petrographic composition and liquefaction behaviour of North Dakota and Texas lignites. Parkash, S., Carson, D., Ignasiak, B.S.; *Fuel*, US-82-119, 1983.

1193 Geothermal gradients, hydrodynamics, and hydrocarbon occurrences, Alberta, Canada. Hitchon, B.; *American Association of Petroleum Geologists Bulletin*, Vol. 68, No. 6, 713-743, June 1984.

1194 The Spirit River Formation: A stratigraphic-diagenetic gas trap in the deep basin of Alberta. Cant, D.J.; *The American Association of Petroleum Geologists Bulletin*, Volume 67, Number 4 (April 1983), 577-587.

1195 Three-dimensional systematics of Alberta plains coal. Campbell, J.D.; 1983 International Conference on Coal Science, Pittsburg, Pennsylvania, August 1983.

1196 Application of the finite element method to study crystal growth. Singh, B.; *Society of Engineering Sciences*, 20th Annual Meeting, University of Delaware, August 20-24, 1983.

1197 Deep channel sedimentation in the Lower Cretaceous McMurray Formation, Athabasca Oil Sands, Alberta. Mossop, G.D., Flach, P.; *Sedimentology*, Volume 30, International Association of Sedimentologists, 1983, 493-509.

1198 Alberta Geological Survey: The nature and scope of its activities. Mossop, G.D.; *Bulletin of Canadian Petroleum Geology*, Volume 31, Number 1 (March 1983).

1199 Holocene and pleistocene caliche from Big Pine Key, Florida. Harrison, R.S., Coniglio, M.; *Bulletin of Canadian Petroleum Geology*, Volume 31, Number 1, (March 1983).

1200 A mechanism for initiation of bitumen displacement from oil sand. Takamura, K., Chow, R.S.; *Journal of Canadian Petroleum Technology*, Vol. 22, No. 6, Nov.-Dec. 1983, 1-9.

1201 Pumping test analysis in fractured aquifers: State of the art, some perspectives. Sauveplane, C.; *Ferris Symposium Volume: Groundwater Hydraulics*, American Geophysical Union, June 1983, 171-206.

1202 Brassinosteroids: A new group of plant growth hormones. Chen, S.C.; *Chemistry in Canada*, 35, 13-16, September 1983.

1203 Soda-AQ pulps from hardwoods - physical properties and bleachability. Cyr, N., MacLeod, J.M.; *Pulp and Paper Canada*, Volume 84, Number 4, 1983.

1204 Pier scour in a cohesive material. Andres, D.; *Workshop on Bridge Hydraulics*, Banff, May 1983.

205 The use of radar to estimate crop damage. Wojtiw, L., Ewing, C.G.; 21st Conference on Radar Meteorology, Edmonton, Alberta, September 19-23, 1983, pages 435-441.

206 Changes in the physical structure of coal on partial solubilization. Parkash, S., Moschopedis, S.E.; Fuel, October 1983, Vol. 62, 1231-1234.

207 The use of radar and a convective index for 1-6 hour regional forecasts. Bergwall, F., Humphries, R.G., Strong, G.S.; 21st Conference on Radar Meteorology, Edmonton, Alberta, September 19-23, 1983.

208 Hailfall probability based on radar reflectivity. Richardson, S., Barge, B.L., Humphries, R.G.; 21st Conference on Radar Meteorology, Edmonton, Alberta, September 19-23, 1983.

209 Adsorption of copper in a sandy loam savanna soil. Boon, J.A.; Agronomia Tropical, Volume XXVI, September-October 1976.

210 Application of multi-response permutation procedures and median regression for covariate analyses of possible weather modification effects on hail responses. Wong, R.K.W., Chidambaram, N.; Atmosphere-Ocean 21(1), 1983, 1-3.

211 Gas separation by permeators with high flux asymmetric membranes. Pan, C.Y.; American Institute of Chemical Engineers (Vol. 29, No. 4), pages 545-551, July 1983. Also presented at the American Institute of Chemical Engineers Conference, Anaheim, California, June 1983.

212 The synoptic index of convection: Application to the Fort Collings Hailstorm of 30 July 1979. Strong, G.S., Wilson, W.D.; 13th Conference on Severe Local Storms, Tulsa, Oklahoma, October 17-20, 1983.

213 Complexes of platinum group metals with the ambidentate ligands $\text{Ph}_2\text{P}(\text{CH}_2)_n\text{SpH}$ ($n = 1,2$). Sanger, A.R.; Canadian Journal of Chemistry, Volume 61, No. 9, 1983, 2214-2219.

214 Analysis of breakup and ice jams in the Athabasca River at Fort McMurray. Andres, D., Doyle, P.F.; Canadian Journal of Civil Engineering, Vol. 11, No. 3, pages 444-458, 1984.

215 Field observations of scour on the Peace River near Fort Vermilion, Alberta. Harrington, R.A., McLean, D.G.; Workshop on Bridge Hydraulics, Banff, Alberta, April 27-28, 1983.

216 Recent developments in the Solar and Wind Energy Research Program (SWERP). Baker, D.R., Luft, H.B.; Sunfest '83, 9th Annual SESCI Conference, Windsor, Ontario, August 1-5, 1983.

217 Fatty acid composition and primer specificity of de novo fatty acid synthetase in *Bacillus globisporus*, *Bacillus insolitus*, and *Bacillus psychrophilus*. Kaneda, T., Smith, E.J., Naik, D.N.; Canadian Journal of Microbiology, Vol. 29, No. 12, 1983, 1634-1641.

218 Recovery of water and alkali used in oil sands and heavy oil extraction. Kessick, M.A.; Fuel, Vol. 62, November, 1296-1298, 1983.

1219 Activity and stability of regenerated claus alumina catalyst. George, Z.M., Cavell, R.G., Datta, A.; International Chemical Reaction Engineering Conference, Pune, India, January 8-11, 1984.

1220 Circular polarization for precipitation measurement. Humphries, R.G., Barge, B.L., Toriaschi, E.; Radio Science, Vol. 19, No. 1, 1984, pages 193-200.

1221 Bacteria which convert soluble organic matter into methanogenic substrates. Boone, D.R., Mah, R.; Anaerobic Digestion of Biomass, Institute of Gas Technology R & D Needs - 1983, Chicago, Illinois, 1984.

1222 Fermentation reactions of anaerobic digestion. Boone, D.R.; Biotechnology Handbook, Butterworth/Ann Arbor Sciences, New Jersey, United States, 1983.

1223 Some biological properties of the impure dichloride salt of tetrakis(p-(dimethylamino)phenyl)ethylene and a pinacolone. Elofson, R.M., Schulz, K.F., Laidler, J., Page, G.A., Kowalewski, P., Hay, A.S., Crawford, R.J., Tanner, D., Sandin, R.S.; Journal of Medicinal Chemistry, Vol. 26, No. 11, 1983.

1224 Thermodynamics of aqueous carbon dioxide and sulfur dioxide: Heat capacities, volume, and the temperature dependence of ionization. Tremaine, P.R., McCurdy, K.G., Barbero, J.A., Hepler, L.G.; Canadian Journal of Chemistry, Volume 61, No. 11, 1983, 2509-2519.

1225 Application of coal petrography in the liquefaction of subbituminous coals and lignites. Ignasiak, B.S., du Plessis, M.P., Parkash, S.; Proceedings, 1983 International Conference on Coal Science, Pittsburgh, Pennsylvania, August 15-19, 1983.

1226 Efficient utilization of the (Canmet) pitch derived from hydro cracked Athabasca bitumen. George, Z.M.; Journal of Fuel Processing Technology, 1983.

1227 On terrain-following coordinates and the hydrostatic approximation. Wong, R.K.W., Hage, K.D.; Journal of the Atmospheric Sciences, Vol. 40, No. 12, December 1983, pages 2875-2878.

1228 Use of trace elements for classification of crude oils into families: example from Alberta, Canada. Hitchon, B., Filby, R.J.; American Association of Petroleum Geologists Bulletin, Vol. 68, No. 7, 838-849, July 1984.

1229 Protonation of polyethers, glymes and crown ethers in the gas phase. Blades, A.T., Sharma, R.B., Kebarle, P.; Journal of American Chemistry Society, Vol. 106, No. 3, 510-516, 1984.

1230 Facies and diagenesis of Upper Pleistocene carbonates from Big Pine Key, Florida. Harrison, R.S., Coniglio, M.; Bulletin of Canadian Petroleum Geology, Vol. 31, No. 3 (Sept.1983), 135-147.

1231 Solutions at elevated temperatures and pressures. Tremaine, P.R., Waltz, W.L.; Chemistry in Canada, November 1983, pages 19-20.

1232 Quantitative methods in ichnology: spatial distribution among populations. Pemberton, S.G., Frey, R.W.; Lethaia, International Journal of Palaeontology and Stratigraphy, Vol. 17, 33-48. 1983.

1233 Correlation of C13 and N15 nuclear magnetic resonance chemical magnetic shifts with polarographic reduction potentials of para-substituted benzenediazonium salts and their electronic structures. Cyr, N., Elofson, R.M., Laidler, R.M., Schulz, K.F., Gadallah, F.F.; Canadian Journal of Chemistry, Vol. 62, No. 1, 92-94, 1984.

1234 Nutritional evaluation of forages by high resolution solid state 13C-NMR. Elofson, R.M., Ripmeester, J., Cyr, N., Milligan, L.P., Mathison, G.W.; Canadian Journal of Animal Science 64, March 1984, 93-102.

1235 Management of coal macerals in the liquefaction of low rank coals. Parkash, S., Ignasiak, B.S., du Plessis, M.P., Cameron, A.R.; Liquid Fuels Technology, Vol. 1, No. 3, 219-233, 1983.

1236 Selective agglomeration during pipelining of slurries. Janiak, J., Pawlak, W., Szymocha, K., Ignasiak, B.S., Rodkiewicz, C.M.; 3rd Annual Coal Liquid Mixtures Workshop, Halifax, N.S., Oct. 12-14, 1983.

1237 Wood quality of Alberta aspen: Mechanical strengths of clear, stained and decayed wood. Back, L., Wang, E.I.C., Micko, M.; Agriculture and Forestry Bulletin, Vol. 6, No. 3, September 1983.

1238 Coal liquefaction rate constants measurement. Parkash, S., Ozum, B., Oguztoreli, M.N.; Liquid Fuels Technology, 2(1), 19-31, 1984.

1239 Reaction between rock matrix and injected fluids in Cold Lake oil sand - potential for formation damage. Boon, J.A., Hamilton, T., Holloway, L., Wiwchar, B.; Journal of Canadian Petroleum Technology, May-August 1983, pages 55-66.

1240 The stratigraphic position of Beaver River sandstone. Fenton, M.M., Ives, J.W.; Archaeological Survey of Alberta, Occasional Paper No. 23, 128-136, 1984.

1241 Part 1: Selective agglomeration of metallurgical coal in stirred tanks and in a pipeline loop. Janiak, J., Pawlak, W., Ignasiak, B.S., Rodkiewicz, C., 1984.

1242 Coal quality, coal rank variation and its relation to reconstructed overburden, Upper Cretaceous and Tertiary plains coals, Alberta, Canada. Nurkowski, J.R.; American Association of Petroleum Geologists Bulletin, V. 68, No. 3, 285-295, 1984.

1243 Streamwise and transverse ice loads on a circular load pile. Huiskamp, W.; Third International Cold Regions Engineering Specialty Conference, Edmonton, April 3-5, 1984.

1244 Application of ice engineering to bridge design standards. Huiskamp, W., Kornelsen, R.W., Gerard, R., Montgomery, C.J.; Third International Cold Regions Engineering Specialty Conference, Edmonton, April 3-5, 1984.

1245 An overview of weather modification activities in Alberta. Deibert, R.J.; W.M.A. Journal, 1984.

1246 Alberta: 1984 update in the Keystone Coal Industry Manual. Campbell, J.D.; Keystone Coal Industry Manual, 1984.

1247 Development of shoreline-shelf sand bodies in a Cretaceous eperic sea deposit. Cant, D.J.; Journal of Sedimentary Petrology, Vol. 54, No. 2, June 1984, 541-445.

1248 Oxidation of trans-(RhCl(CO)(PPh₂R)₂) (R = Et, Pri, CH₂SPh) with HgCl₂ to form rhodium-mercury bonded complexes, and complexes of mercury(II) with phosphinoalkylthioethers or dithioethers. Sanger, A.R.; Canadian Journal of Chemistry, Vol. 62, No. 4, 822-825, 1984.

1249 The role of thermal decomposition in the degradation of organic compounds in the flame ionization detector. Blades, A.T.; Journal of Chromatographic Science, Vol. 22, March 1984, 120-121.

1250 Quaternary events Canadian Prairies: An example of correlation of quaternary chronologies. Fenton, M.M.; Correlation of Quaternary Chronologies, Vol. 6, 1984.

1251 Evaluation of ice bridges in the vicinity of Fort Chipewyan, Alberta. Harrington, R.A., Asce, A.M., Lipsett, A.W.; Third International Cold Regions Engineering Specialty Conference, Edmonton, April 3-5, 1984.

1252 Adsorption of SO₂ on alumina catalyst studied by FTIR and ESR spectroscopy. George, Z.M., Tower, R.W., Datta, A., Cavell, R.G.; 1984.

1253 Ice-nucleating bacteria. Kaneda, T.; Agriculture and Forestry Bulletin, Vol. 7, No. 2, June 1984.

1254 Ice-nucleating bacteria isolated from the Ellerslie farm. Kaneda, T.; Agriculture and Forestry Bulletin, Vol. 7, No. 2, June 1984.

1255 Structural and sedimentological framework of lower Cretaceous coal-bearing rocks in the Grande Cache area, Alberta. Langenberg, C.W.; Canadian Society of Petroleum Geologists, Memoir 9, 533-540, 1984.

1256 A Cretaceous woodground: The Teredolites ichnofacies. Pemberton, S.G., Rahmani, R.A., Bromley, R.G.; Journal of Paleontology, Vol. 58, No. 2, March 1984.

1257 Tracemaking activities of crabs and their environmental significance: The ichnogenus *psilonichnus*. Pemberton, S.G.; Frey, R.W., Curran, H.A.; Journal of Paleontology, Vol. 58, No. 2, March 1984.

1258 Morphological, ethological, and environmental significance of the ichnogenera *scyenia* and *ancorichnus*. Pemberton, S.G., Frey, R.W., Fagerstrom, J.A.; Journal of Paleontology, Vol. 58, No. 2, March 1984.

1259 Seeding effects on liquid water and ice crystal concentrations in Alberta cumulus clouds. Kochtubajda, B., Rogers, D.C.; 9th Conference on Planned and Inadvertent Weather Modification, Park City, Utah, pages 102-103, May 1984.

1260 Precipitation processes within an Alberta supercell hailstorm. Krauss, T.W., Marwitz, J.D.; Journal of Atmospheric Sciences, Vol. 41, No. 6, pages 1025-1034, March 1984.

1261 A relationship between hailstone size distributions and storm thermodynamics, and its application to the evaluation of seeding effects. Cheng, L., Wong, R.K.W., English, M.; 9th Conference on Planned and Inadvertent Weather Modification, Park City, Utah, pages 31-32, May 1984.

1262 Alberta Geological Survey Research. Mossop, G.D.; Geoscience Canada, Vol. 11, No. 1, 1-15 March 1984.

1263 Hydrogenation and hydroformylation reactions using binuclear diphosphine-bridged complexes of rhodium. Sanger, A.R.; Homogeneous Catalysis with Metal Phosphine Complexes, Plenum Press, 1983.

1264 Polarographic redox potentials of diazotized polycyclic aromatic amines and the absolute electrode potentials. Elofson, R.M., Gadallah, F.F., Schulz, K.F., Laidler, J.K.; Canadian Journal of Chemistry, Vol. 62, No. 9, 1772-1775, 1984.

1265 Bitumen upgrading using synthesis gas and calcium oxide. Gadallah, F.F., Mohammed, P.T.; Catalysis on the Energy Scene, 577-584, 1984.

1266 Thermal breakup predictions on a regulated river. Andres, D.; Proceedings of the Conference Water for Resource Development, 534-538, August 14-17, 1984.

1267 Liquefaction behaviour of Alberta subbituminous coals. Moschopedis, S.E., Ozum, B.; Canadian Journal of Chemical Engineering, Vol. 62, No. 3, 374-377, 1984.

1268 Optimization of coal liquefaction reactors. du Plessis, M.P., Ozum, B., Oguztoreli, M.N.; The Canadian Journal of Chemical Engineering, Vol. 61, No. 6, 1983, 816-823.

1269 Optimal control of a continuous two valves in series letdown flow system. Ozum, B., Oguztoreli, M.N.; The Canadian Journal of Chemical Engineering, Vol. 61, No. 6, 1983, 859-862.

1270 Some drilling and trenching methods used in sand and gravel exploration in Alberta. Edwards, W.A.D., Fox, J.C., Richardson, R.J.H.; Rock Products, 1984.

1271 Setting the scene for aggregate resource management in Alberta. Edwards, W.A.D., Hudson, R.B.; Proceedings 19th Forum on the Geology of Industrial Minerals, Miscellaneous Paper 114, 1984.

1272 The aggregate inventory of Alberta, Canada. Edwards, W.A.D., Fox, J.C., Richardson, R.J.H.; Bulletin of the International Association of Engineering Geology, No. 29, Paris, 65-68, 1984.

1273 Quaternary geology of the north Kaipara Barrier, Northland, New Zealand. Richardson, R.J.H., Mildenhall, D.C.; New Zealand Journal of Geology and Geophysics, 1984.

1274 Bovine bile resistance increases *leuconostoc oenos* 44.40 viability upon lyophilization. Kole, M., Altosaar, I.; Applied and Environmental Microbiology, May 1984, 1150-1153.

1275 Co-processing of Alberta subbituminous coal with oil sand bitumen. Ozum, B., Moschopedis, S.E.; Liquid Fuels Technology 2(2), 193-209, 1984.

1276 Mineral transformations during in situ recovery of bitumen from carbonate rock: a statistical-experimental study. Boon, J.A., Bizon, A.E., Kubacki, W.; Bulletin of Canadian Petroleum Geology, Vol. 32, No. 1, March 1984.

1277 Further investigations on the use of bitumen and heavy oils to process coal. Moschopedis, S.E.; Liquid Fuels Technology 2(2), 177-191, 1984.

1278 Chemistry in enhanced oil recovery - an overview. Boon, J.A.; Journal of Canadian Petroleum Technology, Jan.-Feb. 1984, pages 59-65.

1279 The polarization properties of fine scale reflectivity patterns within a severe storm. Humphries, R.G., Bergwall, F.; 22nd Conference on Radar Meteorology, Zurich, September 1984, pages 140-144.

1280 A C13 and N15 NMR study of the syn-anti-isomerism of diazocyanides. Elofson, R.M., Cyr, N., Laidler, J.K., Schulz, K.F.; Tetrahedron Letters, Vol. 25, No. 29, 3039-3042, May 1984.

1281 Interfacial free energies, zeta potentials and thromboresistance in bovine and ovine carotid arteries. Gerson, D.F.; Journal of Dispersion Science and Technology, Vol. 6, No. 1, 1984.

1282 Two-stage subbituminous coal/bitumen liquefaction process. Ignasiak, B.S., Lewkowicz, L., Kovacik, G., Ohuchi, T., du Plessis, M.P.; Catalysis on the Energy Scene, pages 593-600, 1984.

1283 Lithology-dependent diagenetic control of reservoir properties of conglomerates, Fahler Member, Elmworth Field, Alberta. Cant, D.J., Ethier, V.G.; The American Association of Petroleum Geologists Bulletin, Vol. 68, No. 8, 1044-1054, 1984.

1284 Summary of quaternary stratigraphy and history, Western Canada. Fenton, M.M., Fulton, R.J., Rutter, N.W.; Geological Survey of Canada Paper 84-10, 69-83, 1984.

1285 Application of till pebble lithology to the differentiation of glacial lobes in southern Alberta. Shetsen, I.; Canadian Journal of Earth Sciences, Vol. 21, No. 8, 920-933, 1984.

1286 Contribution of vitrinite macerals to the liquefaction of subbituminous coals. Parkash, S., Lali, K., Holuszko, M., du Plessis, M.P.; Fuel Processing Technology, 9, pages 139-148, 1984.

1287 Applications of agglomeration for upgrading low rank coals. Ignasiak, B.S., Pawlak, W., Janiak, J., Szymocha, K.; Proceedings of EPRI Contractors' Conference, 1984.

1288 Direct reduction beneficiation process for fine grained iron ores. Bertram, E.F.; 23rd Annual Conference of Metallurgists, Quebec City, August 19-23, 1984.

1289 Deformation associated with gypsum karst in the Salt River escarpment, northeastern Alberta. Cruden, D.M., Tsui, P.C.; Canadian Journal of Earth Sciences. Vol. 21, No. 8, 949-959, 1984.

1290 Aircraft observations of snowfall from a synthetic crude oil plant plume. Cheng, L., Rogers, D., Davies, A., Peake, E., Grandia, K.L.; 4th Joint Conference on Applications of Air Pollution Meteorology, Portland, Oregon, October 16-19, 1984, pages 216-219.

1291 Crystal structure of p-diethylaminobenzenediazonium hexafluorophosphate. Elofson, R.M., Ball, R.G.; Canadian Journal of Chemistry, 1984.

1292 A five-coordinate dicarbonyl rhodium(I) complex containing monohapto-2-diphenylphosphinothiophene: (RhCl(CO)₂(DPT)₂). Sanger, A.R.; Canadian Journal of Chemistry, Vol. 62, No. 11, 2168-2169, 1984.

1293 An upper cretaceous fluvio-lacustrine coal-bearing sequence, Red Deer area, Alberta, Canada. Nurkowski, J.R., Rahmani, R.A.; Special Publication of the International Association of Sedimentologists, No. 9, 1984.

1294 Propionate exchange reactions in methanogenic ecosystems. Boone, D.R.; Applied and Environmental Microbiology, Vol. 48, No. 4, 863-864, October 1984.

1295 Time dependent relationships between liquid water, ice particle concentrations and sizes and silver content in seeded Alberta clouds. Krauss, T.W., Warburton, J.A., Stone, R.H.; 9th Conference on Weather Modification, Park City Utah, May 21-23, 1984, pages 104-105.

1296 Comparisons of silver with major chemical constituents in seeded and non-seeded cloud particles in Alberta. Krauss, T.W., Stone, R.H.; 9th Conference on Weather Modification, Park City, Utah, May 21-23, 1984, pages 106-107.

1297 Depositional environments of coal and coal-bearing strata. McCabe, P.J.; Special Publication of the International Association of Sedimentologists, No. 7, 1984.

1298 An overview of wind energy research by the Alberta Research Council including wind pumping preliminary test results. Luft, H.B.; 10th Annual National Conference of the Solar Energy Society of Canada, Windsor, Ontario, August 2-6, 1984, 338-344.

1299 Effect of mineral transformation on porosity and permeability of dolomite rock during in-situ recovery of bitumen: A preliminary study. Boon, J.A., Bird, G., Wiwchar, B., Kubacki, W.; Bulletin of Canadian Petroleum Geology, Vol. 32, No. 3, pages 281-288, 1984.

1300 Thin-layer chromatography as an alternative to sara analysis of coal derived liquids. Selucky, M., Hafermann, P., Iacchelli, A., Manske, T.; Liquid Fuel Technology, 1984.

1301 Microbiology of soil and fertilizer nitrogen use efficiency. Blades, A.T., Rice, W.A., Ashworth, J., McGill, W.B.; 21st Annual Alberta Soil Science Workshop Proceedings, Edmonton, Alberta, February 21-22, 1984.

1302 Changes in crop available nitrogen in soils in winter: Mineralization, immobilization and denitrification. Blades, A.T., Heaney, D.J., Malhi, S.S., Nyborg, M.; 21st Annual Alberta Soil Science Workshop Proceedings, February 21-22, 1984.

1303 The use of nitrification inhibitors in attempts to improve the efficiency of plant uptake of fertilizer-N and soil mineral-N. Blades, A.T., Ashworth, J., Malhi, S.S., Penney, D.C., Flore, N.A., Hennig, A.M.E.; 21st Annual Alberta Soil Science Workshop Proceedings, February 21-22, 1984.

1304 Physico-chemical characterization of Athabasca oil sand and its significance to bitumen recovery. Takamura, K.; Engineering Foundation Conference on Energy Mineral Processing, Nanniker, New Hampshire, August 19-24, 1984.

1305 Optimal reactor size distribution with fixed terminal constraints. Ozum, B., Gibb, W.J., Oguztoreli, M.N.; Mathematics and Computers in Simulation, XXVI, 497-501, 1984.

1306 Petrography of low rank coals with reference to liquefaction potential. Parkash, S., du Plessis, M.P., Cameron, A.R., Kalkreuth, W.D.; International Journal of Coal Geology, 4 (1984).

1307 Probable lobster burrows in the Cardium Formation (U. Cretaceous) of southern Alberta, Canada and comments on modern burrowing decapods. Pemberton, S.G.; Journal of Paleontology, 1984.

1308 The glossifungites ichnofacies: Modern examples from the Georgia Coast, U.S.A. Pemberton, S.G., Frey, R.W.; SEPM Special Publication 35, 1985.

1309 Purification and properties of NADH- and NADPH-dependent p-hydroxybenzoate hydroxylase from *corynebacterium cyclohexanicum*. Kaneda, T., Fujii, T.; European Journal of Biochemistry, 1984.

1310 Book review, by Robert A. Meyers, Ed., Coal Structure, Academic Press, 1982. Ignasiak, B.S.; Coal Preparation, Vol. 2, 1985.

1311 Bicyclization of aza-compounds by positive halide ions: I - Cyclic amines. Elofson, R.M., Gadallah, F.F., Laidler, J.K.; Canadian Journal of Chemistry, 1984.

1312 Simulated distillation of coal derived liquids using combined gas chromatography - vacuum thermogravimetry. Selucky, M., Iacchelli, A., Southern, T.G., Cuthiell, D.; Analytical Chemistry, January 1985.

1313 Formation of an asymmetric Rh-Hg-Rh bridged complex. Sanger, A.R.; Inorganica Chimica Acta, 1984.

1314 Increased chitinase production by a non-pigmented mutant of *Serratia marcescens*. Kole, M., Altosaar, I.; FEMS Microbiology Letters, 1985.

1315 The Alberta Research Council's high pressure research laboratory at Nisku. Aitchison, D., du Plessis, M.P.; Canadian Chemical News, Vol. 37, No. 1, 10-13, January 1985.

1316 Controls on hydrocarbon accumulation in glauconitic sandstone, Suffield heavy oil sands, southern Alberta. Tilley, B.J., Longstaffe, F.J.; The American Association of Petroleum Geologists Bulletin, Vol. 68, No. 8, 1004-1023, 1984.

1317 Electrochemical pH control of *Saccharomyces cerevisiae* batch cultures. Thompson, B.G., Gerson, D.F.; Biotechnology and Bioengineering, 1985.

1318 Five coordinate dicarbonyl complexes of rhodium(1): $(RhX(CO)_2(PPh_3)_2)$ ($X = Cl, Br, I$). Sanger, A.R.; Canadian Journal of Chemistry, 1985.

1319 Mass transfer limitations in coal liquefaction. Ozum, B., Parkash, S., Chakrabarty, S., Oguztoreli, M.N.; Liquid Fuels Technology.

1320 Hydroformylation using dinuclear rhodium catalyst precursors. Part 1. Numerical methods for the determination of the kinetic parameters. Southern, T.G.; Journal of Molecular Catalysis.

321 In situ measurement of pavement behavior under load. Christison, J.T.; Transportation Forum, 1984.

322 Ichnology of storm-influenced shallow marine sequence: Cardium Formation (Upper Cretaceous) at Seebee, Alberta. Pemberton, S.G., Frey, R.W.; Canadian Society of Petroleum Geologists, Memoir 9, October 1984.

323 True density and elemental composition of subbituminous coals. Parkash, S.; Fuel.

324 Search for low severity liquefaction concept. Chakrabarty, S.K.; Liquid Fuels Technology 3(1), 1-13, 1985.

325 Description of drilling for subbituminous coal in the plains region of Alberta, 1961-1983. Bosman, A.; Canadian Mining Journal, April 1985.

326 Vapour liquid equilibrium calculations for dilute aqueous solutions of CO_2 , H_2S , NH_3 and $NaOH$ to 300°C. Tremaine, P.R.; The Canadian Journal of Chemical Engineering, Vol. 63, April 1985.

327 The electric properties of the bitumen/water interface. Part II. Application of the ionizable surface group model. Takamura, K., Chow, R.S.; Colloids and Surfaces.

328 The sublimation of dry ice pellets used for cloud seeding. Kochtubajda, B., Lozowski, E.P.; Journal of Climate and Applied Meteorology.

329 Crandallite group minerals in the Helikian Athabasca group in Alberta, Canada. Wilson, J.A.; Canadian Journal of Earth Sciences.

1330 Lower Cretaceous Luscar group (revised) of the northern and north central foothills of Alberta. Langenberg, C.W., McMechan, M.E.; Bulletin of Canadian Petroleum Geology, Vol. 33(1), March 1985.

1331 Control of ammonium concentration in *Escherichia coli* fermentations. Thompson, B.G., Gerson, D.F., Kole, M.M.; Biotechnology and Bioengineering.

1332 Conversion of chenodeoxycholic acid to ursodeoxycholic by *Clostridium absonum* in culture and by immobilized cells. Kole, M.M., Altosaar, I.; FEMS Microbiology Letters.

1333 Bicyclization of aza-compounds by positive halide ions. I. Cyclic amines. Laidler, J.K., Elofson, R.M.; Canadian Journal of Chemistry, June 1985.

1334 Injection-production strategies for reservoirs having a bottomwater zone. Singh, B., Malcolm, J.D., Heidrick, T.R.; Society of Petroleum Engineers Conference, 1985 California regional meeting, March 1985.

1335 Separation of macerals from subbituminous coals and their response to liquefaction. Parkash, S., Lali, K., Holuszko, M., du Plessis, M.P.; Liquid Fuels Technology.

1336 On the gamma size distribution and stochastic sampling errors. Wong, R.K.W., Chidambaram, N.; Journal of Climate and Applied Meteorology.

1338 Visible light-induced splitting of hydrogen sulphide and thiol formation in CdS suspension. Green, M., Elofson, R.M.; Chemical Communications.

1339 Heat transfer in axially dispersed two-phase flow systems. Ozum, B., du Plessis, M.P.; Journal of Numerical Heat Transfer.

1340 Catalytic activity of faujasite-type zeolites towards the claus reaction. George, Z., Tower, B.; The Canadian Journal of Chemical Engineering.

1341 On the measurement of coal liquefaction kinetics. Ozum, B.; The Canadian Journal of Chemical Engineering, October 1985.

1342 Influence of lithology and fluid flow in the temperature distribution in a sedimentary basin. A case study from the Cold Lake area, Alberta. Bachu, S.; Tectonophysics Journal.

1343 Choose right rig for exploration. Edwards, W.A., Fox, J.C., Richardson, R.J.; Rock Products.

1344 Electrochemical pH control of *Saccharomyces cerevisiae* batch cultures. Thompson, B.G., Gerson, D.F.; Biotechnology and Bioengineering, Vol. 27, 1985.

1345 Characteristics of in situ coal gasification liquids from a cretaceous coal. Chakrabarty, S.K., Selucky, M.L.; Nature, February 1985.

1346 Petrography of subbituminous coals from Alberta Plains, Canada. Parkash, S., Lali, K.; Coal Quality.

1347 Nuclear magnetic resonance studies of asphaltenes and coals. A new approach to obtaining asphaltene structural parameters with dipolar dephasing. Cyr, N., Selucky, M.L.; *Liquid Fuels Technology*.

1348 Hailstone size distributions and their relationship to storm thermodynamics. Cheng, L., English, M., Wong, R.; *Journal of Climate and Applied Meteorology*, vol. 24, October 1985, 1059-1067.

1349 Use of radar to obtain intensity-duration estimates for rainstorms. Wojtiw, L., Figliuzzi, S.; *Sixth Conference on Hydrometeorology*, October-November 1985, 116-121.

1350 Electrokinetic flow in a parallel-plate channel containing bitumen and water: A model for oil sands. Levine, S., Sacuta, A., Takamura, K.; *AOSTRA Journal of Research*, vol. 1, June 1985, 255-262.

1351 Origin of the Pleistocene Key Largo Limestone, Florida Keys. Harrison, R.S., Coniglio, M.; *Canadian Society of Petroleum Geologists*, vol. 33, September 1985, 350-358.

1352 Electrochemical control of redox potential in batch cultures of *Escherichia coli*. Thompson, B.G., Gerson, D.F.; *Biotechnology and Bioengineering*, vol. 27, 1512-1515.

1353 ^{13}C solid state NMR of Alberta subbituminous macerals. Parkash, S., Axelson, D.F.; *Liquid Fuels Technology*.

1354 The apparent molar heat capacity of aqueous hydrochloric acid from 10 to 140°C. Tremaine, P.R., Sway, K., Barbero, J.A.; *Journal of Solution Chemistry*, vol. 14.

1355 Approximate MRPP-P values obtained from four exact moments. Wong, R.

1356 Laboratory study of solvent enhanced communication in oil sands. Isaacs, E.E., Green, K.; *Canadian Journal of Chemical Engineering*, vol. 63, December 1985, 878-885.

1357 The physical environment in relation to high frequency callus and plantlet development in anther cultures of wheat (*Triticum aestivum L.*) cv. Chris, Lazar, M.D., Schaeffer, G.W., Baenziger, P.S.; *Journal of Plant Physiology*, vol. 121, 103-109.

1358 The geometry of folded and thrusted rocks in the Rocky Mountain Foothills near Grande Cache, Alberta. Langenberg, C.W.; *Canadian Journal of Earth Sciences*, vol. 22, 1711-1719.

1359 Use of a mill and spinning riffle for sub-sampling laboratory samples of oil sands. Wallace, D.

1360 Thermodynamics of the complexes of aqueous iron (III), aluminum, and several divalent cations with EDTA: Heat capacities, volumes, and variations in stability with temperature. Hovey, J.K., Tremaine, P.R.

1361 Heat transfer in two-phase flow system. Ozum, B.

1362 Commercial evaluation of regenerated Claus alumina catalyst. George, Z.M., Schurek, M.M., Theriault, B.; *XI Interamerican Congress of Engineers*.

1363 Silica transport during steam injection into oil sands. I. Dissolution and precipitation kinetics of quartz: new results and review of existing data. Bird, G., Boon, J., Stone, T.

1364 Effects of carbon dioxide concentration on anaerobic fermentations of *Escherichia coli*. Thompson, B.G.

1365 On the measurement of coal liquefaction kinetics. Ozum, B., Moschopedis, S.E., Chakrabarty, S.K., Oguztoreli, M.N.; *Canadian Journal of Chemical Engineering*, vol. 63, December 1985, 928-935.

Earth Sciences Notes

77-A Stoneware and low duty refractory clays associated with the Athabasca Oil Sands. Scafe, D.W.; 33 pages, 7 appendixes, 2 figures, 3 tables. \$3.50

78-A Potential industrial clays of Alberta: A preliminary assessment, Part I. Scafe, D.W.; 60 pages, 5 appendixes, 9 figures, 8 tables. \$3.00

80-A Potential industrial clays of Alberta: A preliminary assessment, Part II. Scafe, D.W.; 75 pages, 8 appendixes, 10 figures, 3 tables. \$3.00

Natural Resource Notes

80-1 Predictor and response variables for the hailstorms of 1975 and 1976. Barlow, F.D., Kochtubajda, B., and English, M.; 60 pages, 1 figure, 2 tables. \$3.00

Memoirs

1	Geology of the McMurray Formation: Part III. General geology of the McMurray area. 1959. Carrigy, M.A.; 130 pages, 3 appendixes, 11 figures, 12 tables, 1 map NTS 74D, 74E (scale 1 in to 4 mi). Map out of print. \$16.00	2	Geology and groundwater resources of the Milk River sandstone in southern Alberta. 1960. Meyboom, P.; 89 pages, 1 appendix, 26 figures, 13 tables. \$11.00
---	--	---	--

Mimeographed Circulars

See Information Series

Bedrock topography maps

Bedrock topography and preglacial thalwegs in the Edmonton area, NTS 83H. Kathol, C.P., McPherson, R.A.; 1 map (scale 1:50 000), accompanies Bulletin 32 as figure 20, 1975. \$2.00

Bedrock topography, Andrew area, NTS 83H. LeBreton, E.G.; 1 map (scale 1 in to 1.6 mi), accompanies Bulletin 12, 1963. \$2.00

Bedrock topography of the Drumheller map area, Alberta, NTS 82P. Carlson, V.A.; 1 map (scale 1:250 000), 1969. \$2.00

Bedrock topography and surficial aquifers of the Edmonton district, Alberta, NTS 83H. Carlson, V.A.; 4 map sheets (scale 1:50 000), accompanies Earth Sciences Report 66-3. \$2.00

Bedrock topography of the Edmonton-Red Deer map area, Alberta, NTS 83A and 83H. Farvolden, R.N.; 1 map (scale 1 in to 6.5 mi), accompanies Bulletin 12, 1963. \$2.00

Bedrock topography and surficial aquifers, Edson area, Alberta, NTS 83F. Gabert, G.M., Roed, M.A.; 2 maps (scale 1:50 000), accompanies Earth Sciences Report 68-1. mf \$2.00

Bedrock topography of the Foremost-Cypress Hills area, Alberta, NTS 72E. Westgate, J.A.; 1 map (scale 1:250 000), accompanies Bulletin 22, 1965. \$2.00

Bedrock topography of the Gleichen map area, Alberta, NTS 82I. Geiger, K.W.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 67-2. \$2.00

Bedrock topography of the Grande Prairie area, Alberta, NTS 83M. Carlson, V.A., Hackbarth, D.A.; 1 map (scale 1:250 000), 1974. \$2.00

Bedrock topography of the Iosegun Lake map area, Alberta, NTS 83K. Carlson, V.A., Green, R.; 1 map (scale 1:250 000), 1979. \$2.00

Bedrock topography of the Lesser Slave Lake map area, Alberta, NTS 83O. Vogwill, R.I.J.; 1 map (scale 1:250 000), 1979. \$2.00

Bedrock topography of the Medicine Hat map area, Alberta, NTS 72L. Carlson, V.A.; 1 map (scale 1:250 000), 1970. \$2.00

Bedrock geology, northwest-central Alberta, NTS 83J, 83K. Mellon, G.B., Kramers, J.W., Seagel, E.J.; 1 map (scale 1 in to 24 mi), found in Information Series 60, pages 109-124. \$7.00

Bedrock topography and sand and gravel deposits, Peace River district, NTS 83M, 83N, 84C and 84D. Jones, J.F.; 2 maps (scale 1 in to 8 mi), accompanies Bulletin 16, 1966. \$2.00

Bedrock topography of the Oyen map area, Alberta, NTS 72M. Carlson, V.A.; 1 map (scale 1:250 000), 1970. \$2.00

Bedrock topography of the Rocky Mountain House area, Alberta, NTS 83B. Carlson, V.A.; 1 map (scale 1:250 000), 1971. \$2.00

Bedrock topography of the Sand River area, Alberta, NTS 73L. Fenton, M.M., Andriashuk, L.D.; 1 map (scale 1:250 000), 1980. \$2.00

Bedrock topography of southwestern Alberta, NTS 82G, 82H, 82I. Geiger, K.W.; 1 map sheet (scale 1 in to 4 mi), accompanies Earth Sciences Report 65-1, reprinted in 1969. \$2.00

Bedrock topography of the Tawatinaw map area, Alberta, NTS 83I. Carlson, V.A.; 1 map (scale 1:250 000), 1977. \$2.00

Bedrock topography of the Vermilion map area, Alberta, NTS 73E. Carlson, V.A., Currie, D.V.; 1 map (scale 1:250 000), 1974. \$2.00

Bedrock topography of the Wabamun Lake map area, Alberta, NTS 83G. Carlson, V.A.; 1 map (scale 1:250 000). \$2.00

Bedrock topography of the Wainwright map area, Alberta, NTS 73D. Carlson, V.A., Topp, L.M.; 1 map (scale 1:250 000), 1972. \$2.00

Bedrock topography of the Whitecourt area, Alberta, NTS 83J. Carlson, V.A., Green, R.; 1 map (scale 1:250 000), 1977. \$2.00

General geology maps

Aerial photographic interpretation of Precambrian structures north of Lake Athabasca. Godfrey, J.D.; 1 map (scale 1 in to 2 mi), accompanies Bulletin 1, 1958. mf \$2.00

Alberta coal areas. 1 map (scale 1 in to 30 mi), accompanies Report 10, 1923. mf \$2.00

Ardley Coal Zone in the Alberta plains: central Red Deer River area, NTS 83A. Campbell, J.D.; 1 map (scale 1 in to 4 mi), accompanies Earth Sciences Report 67-1. \$2.00

Bedrock clay and shale resources of Alberta. Hamilton, W.N., Babet, P.H.; 1 map (scale 1:2 027 520), accompanies Economic Geology Report 3. \$2.00

Bedrock geology of northern Alberta, NTS 74D, 74E, 74L, 84. Green, R., Mellon, G.B., Carrigy, M.A.; 2 sheets (scale 1:500 000). \$5.00

Bedrock geology of the Peace River district, Alberta, NTS 83M, 83N, 84C, 84D. Jones, J.F.; 2 maps (scale 1 in to 8 mi), accompany Bulletin 16, 1966. \$2.00

Catalogue of coal mines of the Alberta plains. Campbell, J.D.; 2 maps (scale 1 in to 14 mi), accompany Earth Sciences Report 64-3. \$2.00

Clay deposits of the Elkwater Lake area of Alberta, NTS 72E. Crockford, M.B.; 1 map (scale 1 in to 1 mi) accompanies Report 61. \$1.00

The Clover Bar coal zone, Edmonton-Morinville district, Alberta, NTS 83H. Pearson, G.R.; 1 map (scale 1 in to 2 mi), accompanies Earth Sciences Report 61-1. mf \$2.00

Coal areas of Alberta. Allan, J.A.; 1 map (scale 1 in to 20 mi), accompanies Report 34, Part V, 1943. mf \$2.00

Coal geology, Taber-Manyberries area, Alberta, NTS 82H, 82I, 72E, 72L. Campbell, J.D.; 1 map (scale 1:250 000) accompanies Earth Sciences Report 74-3. \$2.00

Coal occurrences, Athabasca-Smith area, Alberta, NTS 83I, 83P. Campbell, J.D.; 1 map (scale 1:250 000) accompanies Earth Sciences Report 72-10. \$2.00

Coal occurrences and related geology, Fox Creek area, Alberta, NTS 83K, 83N. Campbell, J.D.; 1 map (scale 1:250 000) accompanies Earth Sciences Report 72-9. \$2.00

Coal occurrences of the Vulcan-Gleichen area, Alberta, NTS 82I. Campbell, J.D., Almadi, I.S.; 1 map (scale 1 in to 4 mi) accompanies Earth Sciences Report 64-2. \$2.00

Coal resources, Hussar-Hanna area, Alberta, NTS 72L, 82I, 72M, 82P. Campbell, J.D.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 74-8. \$2.00

Coal resources, Tofield-Donalda area, Alberta, NTS 73D, 73E, 83A, 83H. Campbell, J.D.; 1 map (1:250 000), accompanies Earth Sciences Report 75-8. \$2.00

Dunefields in the Edmonton area, Alberta, NTS 83H. Carrigy, M.A.; 1 map (scale 1 in to 4 mi) accompanies Earth Sciences Report 70-1. mf \$2.00

General construction conditions in the Edmonton area, NTS 83H. Kathol, C.P., McPherson, R.A.; 1 map (scale 1:50 000), accompanies Bulletin 32 as figure 36, 1975. \$2.00

Geological cross-sections in the Edmonton area, NTS 83H. Kathol, C.P., McPherson, R.A.; 4 map sheets accompany Bulletin 32 as figure 26, 1975. \$8.00

Geology and water resources in parts of the Peace River and Grande Prairie districts, Alberta, NTS 83M, 84C. Rutherford, R.L.; 1 map (scale 1 in to 4 mi), accompanies Report 21, 1930. mf \$2.00

Geological map of Alberta. Green, R.; 1 map (scale 1 in to 20 mi), reprinted 1981, supercedes Geological map of Alberta, Allan, J.A.; 1943. \$3.00

Geology of the Alexander Lake district, Alberta, NTS 74M. Godfrey, J.D.; 1 map (scale 2 in to 1 mi), accompanies Earth Sciences Report 78-1. \$2.00

Geology of Andrew Lake, north district, Alberta, NTS 74M. Godfrey, J.D.; 1 map (scale 2 in to 1 mi), accompanies Earth Sciences Report 58-3. mf \$2.00

Geology of Andrew Lake, south district, Alberta, NTS 74M. Godfrey, J.D.; 1 map (scale 2 in to 1 mi), accompanies Earth Sciences Report 61-2. mf \$2.00

Geology of the area between Athabasca and Embarras Rivers, Alberta, NTS 74L. Rutherford, R.L.; 1 map (scale 1 in to 2 mi), accompanies Report 15, 1926. \$2.00

Geology of the Bayonet, Ashton, Potts and Charles Lakes district, Alberta, NTS 74M. Godfrey, J.D.; 3 maps (scale 2 in to 1 mi), accompany Earth Sciences Report 65-6. mf \$2.00

Geology along the Blackstone, Brazeau and Pembina Rivers in the Foothills belt, Alberta, NTS 83C. Allan, J.A., Rutherford, R.L.; 1 map (scale 1 in to 2 mi), accompanies Report 9, 1924. \$2.00

Geology of the Bocquene-Turtle Lakes district, Alberta, NTS 74M. Godfrey, J.D., Dusseault, M.B.; 4 map sheets (scale 1:31 680), accompany Earth Sciences Report 84-5. \$2.00 each.

Geology along Bow River between Cochrane and Kananaskis, Alberta, NTS 82O. Rutherford, R.L.; 1 map (scale 1 in to 1 mi), accompanies Report 17, 1927. mf \$2.00

Geology of Carbondale River area, Alberta, 82G. Clow, W.H., Crockford, M.B.; 1 map (scale 1 in to 1 mi), accompanies Report 59, 1951. \$2.00

Geology of central Alberta. Allan, J.A., Rutherford, R.L.; 1 map (scale 1 in to 10 mi), accompanies Report 30, 1934. \$2.00

Geology of the Chinchaga River and Clear Hills (north half) map areas, Alberta, NTS 84D, 84E. Green, R., Mellon, G.B.; 1 map (scale 1 in to 8 mi), accompanies Earth Sciences Report 62-8. mf \$2.00

Geology of Colin Lake district, Alberta, NTS 74M. Godfrey, J.D., Peikert, E.W.; 1 map (scale 2 in to 1 mi), accompanies Earth Sciences Report 62-2. \$2.00

Geology of the Drumheller Coal Field, Alberta, NTS 82P. Allan, J.A.; 1 map (scale 1 in to 2000 ft), accompanies Report 4, 1921. mf \$2.00

Geology of the foothills belt between McLeod and Athabasca Rivers, Alberta, NTS 74L. Rutherford, R.L.; 1 map (scale 1 in to 2 mi), accompanies Report 11, 1925. mf \$2.00

Geology of the Fitzgerald, Tulip-Mercredi-Charles Lakes district, Alberta, NTS 74M. Godfrey, J.D., Dusseault, M.B.; 5 maps (scale 1:31 680), accompany Earth Sciences Report 84-7. \$2.00 each.

Geology of the Fort Chipewyan district, Alberta, NTS 74L. Godfrey, J.D.; 4 map sheets (scale 1:31 680), accompany Earth Sciences Report 78-3. \$8.00

Geology of Highwood-Elbow area, Alberta, NTS 82J. Allan, J.A., Carr, J.L.; 1 map (scale 1 in to 1 mi), accompanies Report 49, 1947. \$2.00

Geology of the Marguerite River district, Alberta, NTS 74E. Godfrey, J.D.; 1 map (scale 1 in to 1 mi), 1970. \$2.00

Geology of the McMurray Formation: Part III. General geology of the McMurray area, Alberta, NTS 74D, 74E. Carrigy, M.A.; 1 map (scale 1 in to 4 mi) accompanies Memoir 1, 1959. \$2.00

Geology of the Myers-Daly Lakes district, Alberta, NTS 74M. Godfrey, J.D., Dusseault, M.B.; 4 map sheets (scale 1:31 680), accompany Earth Sciences Report 84-6. \$2.00 each.

Geology of the area between North Saskatchewan and McLeod Rivers, Alberta, NTS 73E. Rutherford, R.L.; 1 map (scale 1 in to 3 mi) accompanies Report 19, 1928. mf \$2.00

Geology and water resources in parts of the Peace River and Grande Prairie districts, NTS 83M, 84C. Rutherford, R.L.; 1 map (scale 1 in to 4 mi), accompanies Report 21, 1930. mf \$2.00

Geology of Red Deer and Rosebud Sheets, NTS 82P, 83A. Allan, J.A., Sanderson, J.O.; 1 map (scale 1 in to 4 mi), accompanies Report 13, 1945. mf \$2.00

Geology of Ribbon Creek area, Alberta, NTS 82J, 83O. Crockford, M.B.; 1 map (scale 1 in to 1 mi), accompanies Report 52, 1949. \$2.00

Geology of the Ryan-Fletcher Lakes district, Alberta, NTS 74M. Godfrey, J.D., Dusseault, M.B.; 4 map sheets (scale 1:31 680), accompany Earth Science Report 84-2. \$8.00

Geology of the St. Agnes Lake district, Alberta, NTS 74M. Godfrey, J.D.; 1 map (scale 2 in to 1 mi), accompanies Earth Sciences Report 62-1. mf \$2.00

Geology and coal occurrences of Wapiti-Cutbank area, Alberta, NTS 83L, 83M. Allan, J.A., Carr, J.L.; 1 map (scale 1 in to 3 mi), accompanies Report 48. \$2.00

Geology of the Wylie Lake district, Alberta, NTS 74M. Godfrey, J.D.; 3 map sheets (scale 2 in to 1 mi), accompany Earth Sciences Report 78-1. \$2.00

Glacial geology, Alliance-Brownfield district, Alberta, NTS 73D. Bayrock, L.A.; 2 maps (scale 1 in to 1 mi) accompany Earth Sciences Report 57-2. mf \$2.00

Glacial geology of Castor district, Alberta, NTS 83D. Gravenor, C.P.; 1 map (scale 1 in to 1 mi), accompanies Earth Sciences Report 56-2. mf \$2.00

Glacial geology of the Coronation district, NTS 73D. Gravenor, C.P., Bayrock, L.A.; 1 map (scale 1 in to 1 mi), accompanies Earth Sciences Report 55-1. mf \$2.00

Glacial geology, Galahad-Hardisty district, Alberta, NTS 73D. Bayrock, L.A.; 2 maps (scale 1 in to 1 mi), accompany Earth Sciences Report 57-3. mf \$2.00

Glacial geology, St. Ann area, Alberta, NTS 83G. Collins, G.A., Swan, A.G.; 1 map (scale 1 in to 4 mi), accompanies Report 67, 1955. mf \$2.00

Glacial geology of Sedgewick district, NTS 73D. Gravenor, C.P., Ellwood, R.B.; 2 maps (scale 1 in to 1 mi), accompany Earth Sciences Report 57-1. mf \$2.00

Gravel resources of the Red Deer area, Alberta, NTS 83A. Holter, M.E.; 4 map sheets (scale 1 in to 2 mi), accompany Earth Sciences Report 75-3. \$2.00

Index map showing lines of geological cross-sections, NTS 83H. Kathol, C.P., McPherson, R.A.; 1 map (scale 1:50 000), accompanies Bulletin 32 as figure 25, 1975. \$2.00

Mineralization in the Andrew, Waugh, and Johnson Lakes area, northeastern Alberta. Godfrey, J.D.; 1 map (scale 1 in to 1 mi), accompanies Earth Sciences Report 58-4. \$2.00

An occurrence of iron on Lake Athabasca. Allan, J.A., Cameron, A.E.; 2 maps (scale 1 in to 12 mi and 1 in to 3/4 mi), accompany Report 7, 1922. mf \$2.00

Potential sulfate hazard in the Edmonton area, NTS 83H. Kathol, C.P., McPherson, R.A.; 1 map (scale 1:50 000), accompanies Bulletin 32 as figure 38, 1975. \$2.00

Precambrian geology of the Jasper region, Alberta, NTS 83D. Charlesworth, H.A.; 2 maps (scale 1:250 000), accompanies Bulletin 23, 1967. \$2.00

Quartz mineral dispositions, Alberta, NTS 74E. Poruks, M., Hamilton, W.N.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 76-6. \$2.00

Quartz mineral dispositions, Alberta, NTS 74L. Poruks, M., Hamilton, W.N.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 76-6. \$2.00

Quartz mineral dispositions, Alberta, NTS 74M. Poruks, M., Hamilton, W.N.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 76-6. \$2.00

Saunders Creek and Norlegg coal basins, Alberta, NTS 83B, 83C, 83F, 83G. Allan, J.A., Rutherford, R.L.; 1 map (scale 1 in to 2 mi), accompanies Report 6, 1922. mf \$2.00

Soils map of the Edmonton area, NTS 83H. Kathol, C.P., McPherson, R.A.; 1 map (scale 1:50 000), accompanies Bulletin 32 as figure 39, 1975. \$2.00

Soils map of the Wapiti map sheet, NTS 83L. Twardy, A.G., Corns, I.G.W.; 4 map sheets, NTS 83L SW, SE, NW, NE (scale 1:126 720), accompany Bulletin 39, 1980. \$2.00 each.

Some characteristics of bentonite in Alberta. Babet, P.H.; 1 map (scale 1 in to 115 mi), accompanies Earth Sciences Report 66-2. \$2.00

Suitability of the Edmonton area for deep sewer construction 50-100 ft (15-30 m) below the surface, NTS 83H. Kathol, C.P., McPherson, R.A.; 1 map (scale 1:50 000), accompanies Bulletin 32 as figure 44, 1975. \$2.00

Suitability of the Edmonton area for deep sewer construction 0-50 ft (0-15 m) below the surface, NTS 83H. Kathol, C.P., McPherson, R.A.; 1 map (scale 1:50 000), accompanies Bulletin 32 as figure 43, 1975. \$2.00

Suitability of the Edmonton area for deep sewer construction at depths greater than 100 ft (30 m) below the surface, NTS 83H. Kathol, C.P., McPherson, R.A.; 1 map (scale 1:50 000), accompanies Bulletin 32 as figure 45, 1975. \$2.00

Suitability of the Edmonton area for solid waste disposal, NTS 83H. Kathol, C.P., McPherson, R.A.; 1 map (scale 1:50 000), accompanies Bulletin 32 as figure 40, 1975. \$2.00

Surficial clay resources of Alberta. Hamilton, W.N., Babet, P.H.; 1 map (scale 1:2 027 520) accompanies Economic Geology Report 3, 1975. \$2.00

Surficial deposits of sand and gravel in the Edmonton region, NTS 83H. Kathol, C.P., McPherson, R.A.; 1 map (scale 1:250 000), accompanies Bulletin 32 as figure 33, 1975. \$2.00

Susceptibility of deposits to erosion in the Edmonton area, NTS 83H. Kathol, C.P., McPherson, R.A.; 1 map (scale 1:50 000), accompanies Bulletin 32 as figure 41, 1975. \$2.00

Susceptibility of deposits to slumping in the Edmonton area, NTS 83H. Kathol, C.P., McPherson, R.A.; 1 map (scale 1:50 000), accompanies Bulletin 32 as figure 42, 1975. \$2.00

Thickness of glacial till in the Edmonton area, NTS 83H. Kathol, C.P., McPherson, R.A.; 1 map (scale 1:50 000), accompanies Bulletin 32 as figure 28, 1975. \$2.00

Thickness of glaciolacustrine sediments in the Edmonton area, NTS 83H. Kathol, C.P., McPherson, R.A.; 1 map (scale 1:50 000), accompanies Bulletin 32 as figure 29, 1975. \$2.00

Thicknesses of Saskatchewan gravels and sand and overburden in the Edmonton area, NTS 83H. Kathol, C.P., McPherson, R.A.; 1 map (scale 1:50 000), accompanies Bulletin 32 as figure 27, 1975. \$2.00

Thickness of surficial deposits in the Edmonton area, NTS 83H. Kathol, C.P., McPherson, R.A.; 1 map (scale 1:50 000), accompanies Bulletin 32 as figure 24, 1975. \$2.00

Uppermost Cretaceous and Tertiary strata of central and southern Alberta. Carrigy, M.A.; 1 map (scale 1 in to 16 mi), accompanies Bulletin 27, 1972. \$2.00

Hydrogeology maps

Hydrogeology of the Athabasca oil sands area, NTS 74E and 84H. Hackbarth, D.A., Nastasa, N.; 1 map accompanies Bulletin 38, 1979. \$2.00

Hydrogeological map of the Bison Lake area, Alberta, NTS 84F. Tokarsky, O.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 72-2. \$2.00

Hydrogeological map of the Bitumount-Namur Lake area, Alberta, NTS 74E, 84H. Ozoray, G.F., Hackbarth, D.A., Lytviak, A.T.; 1 map (scale 1:500 000), accompanies Earth Sciences Report 78-6. \$2.00

Hydrogeological map of the Brazeau-Canoe River, Alberta, NTS 83C, 83D. Barnes, R.G.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 77-5. \$2.00

Hydrogeological map of the Calgary-Golden area, Alberta, NTS 83N, 83O. Ozoray, G.F., Barnes, R.G.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 77-2. \$2.00

Hydrogeological map of the Clear Hills-Chinchaga River area, Alberta, NTS 84D, 84E. Ozoray, G.F.; 1 map (scale 1:500 000), accompanies Earth Sciences Report 82-4. \$2.00

Hydrogeological map of the Drumheller area, Alberta, NTS 82P. Borneuf, D.M.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 72-1. \$2.00

Hydrogeology of the Edmonton area, northeast segment, Alberta, NTS 83H. Stein, R.; 2 map sheets (scale 1:125 000), accompany Earth Sciences Report 76-1. \$2.00

Hydrogeological map of the Edmonton area, northwest segment, Alberta, NTS 83H (part). Bibby, R.; 1 map (scale 1:125 000), accompanies Earth Sciences Report 74-10. \$2.00

Hydrogeological map of the Edmonton area, southeast segment, Alberta, NTS 83H (part). Stein, R.; 2 maps (scale 1:125 000), accompany Earth Sciences Report 79-6. \$2.00

Hydrogeological map of the Edmonton area, southwest segment, Alberta, NTS 83H (part). Ceroici, W.J.; 1 map (scale 1:125 000), accompanies Earth Sciences Report 78-5. \$2.00

Hydrogeological map of the Edson area, Alberta, NTS 83F. Vogwill, R.I.J.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 79-7. \$2.00

Hydrogeological map of the Foremost area, Alberta, NTS 72E. Borneuf, D.M.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 74-4. \$2.00

Hydrogeological map of the Gleichen area, Alberta, NTS 82I. Ozoray, G.F.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 74-9. \$2.00

Hydrogeological map of the Grimshaw-Chinook Valley areas, Alberta. NTS 84C/4 and 84C/5. Tokarsky, O.; 1 map (scale 1:125 000), accompanies Earth Sciences Report 71-2. \$2.00

Hydrogeological map of the Grande Prairie area, Alberta, NTS 83M. Hackbarth, D.A.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 76-4. \$2.00

Hydrogeological map of the Kananaskis Lake area, Alberta, NTS 82J. Borneuf, D.M.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 79-4. \$2.00

Hydrogeological map of the Lesser Slave Lake area, Alberta, NTS 83O. Vogwill, R.I.J.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 77-1. \$2.00

Hydrogeological map of the Lethbridge-Fernie area, Alberta, NTS 82G, 82H. Tokarsky, O.; 2 map sheets (scale 1:250 000), accompany Earth Sciences Report 74-1. \$2.00

Hydrogeological map of the Iosegun Lake area, Alberta, NTS 83K. Tokarsky, O.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 76-2. \$2.00

Hydrogeological map of the Medicine Hat area, Alberta, NTS 72L. Stevenson, D., Borneuf, D.M.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 75-2. \$2.00

Hydrogeological map of the Mount Robson-Wapiti area, Alberta, NTS 83E, 83L. Barnes, R.G.; 1 map (scale 1:500 000), accompanies Earth Sciences Report 76-5. \$2.00

Hydrogeological map of the Mount Watt area, Alberta, NTS 84K. Tokarsky, O.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 72-3. \$2.00

Hydrogeological map of the Oyen area, Alberta, NTS 72M. Borneuf, D.M.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 78-2. \$2.00

Hydrogeological map of the Peerless Lake area, Alberta, NTS 84B. Ceroici, W.J.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 79-5. \$2.00

Hydrogeological map of the Peace River area, Alberta, NTS 84C. Borneuf, D.M.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 81-2. \$2.00

Hydrogeological map of the Pelican-Algar Lake area, Alberta, NTS 83P, 84A. Ozoray, G.F., Lytviak, A.T.; 1 map (scale 1:500 000), accompanies Earth Sciences Report 80-1. \$2.00

Hydrogeology of Red Deer and vicinity, NTS 83A, 83B. Gabert, G.M.; various maps accompany Bulletin 31, 1975. \$1.00 each.

Hydrogeological map of the Red Deer area, Alberta, NTS 83A. LeBreton, E.G., Green, R.; 1 map (scale 1:125 000), accompanies Earth Sciences Report 71-1. \$2.00

Hydrogeological map of the Rocky Mountain House area, Alberta, NTS 83B. Tokarsky, O.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 71-3. \$2.00

Hydrogeological map of the Sand River area, Alberta, NTS 73L. Ozoray, G.F., Wallick, E.I., Lytviak, A.T.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 79-1. \$2.00

Hydrogeological map of the Steen River-Whitesand River area, Alberta, NTS 84N, 84O. Ozoray, G.F.; 1 map (scale 1:500 000), accompanies Earth Sciences Report 80-2. \$2.00

Hydrogeological map of the Tawatinaw area, Alberta, NTS 83I. Borneuf, D.M.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 72-11. \$2.00

A hydrogeological study of the Three Hills area, NTS 82P. Toth, J.; various maps which accompany Bulletin 24, 1968. \$1.00 each.

Hydrogeology of the TriCreek Basin, NTS 83F. Currie, D.V.; various maps accompany Bulletin 33, 1976. \$1.00 each.

Hydrogeology of the Vermilion area, Alberta, NTS 73E. Currie, D.V.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 75-5. \$2.00

Hydrogeological map of the Wabamun Lake area, Alberta, NTS 83G. Ozoray, G.F.; map (scale 1:250 000), accompanies Earth Sciences Report 72-8. \$2.00

Hydrogeological map of the Wainwright area, Alberta, NTS 73D. Hackbarth, D.A.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 75-1. \$2.00

Hydrogeological map of the Waterways-Winefred Lake area, Alberta, NTS 73M, 74D. Ozoray, G.F.; 1 map (scale 1:500 000) accompanies Earth Sciences Report 74-2. \$2.00

Hydrogeological map of Whitecourt, Alberta, NTS 83J. Tokarsky, O.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 76-3. \$2.00

Hydrogeological map of the Winagami area, Alberta, NTS 83N. Borneuf, D.M.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 79-3. \$2.00

Hydrogeological map of the Zama-Bistcho Lakes area, Alberta, NTS 84L, 84M. Borneuf, D.M.; 1 map (scale 1:500 000), accompanies Earth Sciences Report 80-3. \$2.00

Geology and groundwater resources of the Milk River sandstone in southern Alberta, NTS 73E, 84H. Meyboom, P.; various maps accompany Memoir 2, 1960. \$2.00

Groundwater chemistry and hydrology of the Handhills Lake area, Alberta, NTS 82P. VandenBerg, A., Lennox, D.H.; various maps accompany Earth Sciences Report 69-1. \$1.00 each.

Groundwater conditions in the Grande Prairie-Beaverlodge area, NTS 83M. Hackbarth, D.A.; various maps accompany Earth Sciences Report 77-4. \$1.00

Groundwater geology and hydrology of east-central Alberta, NTS 73D, 73E, 73L, 83A, 83H, 83I. LeBreton, E.G.; 2 maps (scale 1 in to 4 mi and 1 in to 8 mi), accompany Bulletin 13, 1963. mf \$2.00

Groundwater geology movement, chemistry and resources near Olds, Alberta, NTS 82O. Toth, J.; various maps, accompany Bulletin 17, 1966. \$1.00 each.

Groundwater geology of the Beaverlodge district, Alberta, NTS 83M. Jones, J.F.; 3 maps (scale 1 in to 2 mi), accompany Earth Sciences Report 59-2. mf \$3.00

Groundwater resources of the City of Calgary and vicinity, Alberta, NTS 82I, 82J, 82O, 82P. Meyboom, P.; 1 map (scale 1:50 000), accompanies Bulletin 8, 1961. mf \$2.00

Piezometric surface, Andrew district, NTS 83H. LeBreton, E.G.; 1 map (scale 1 in to 1.6 mi), accompanies Bulletin 12, 1963. \$2.00

Piezometric surface, Lloydminster district, NTS 73E. LeBreton, E.G.; 1 map (scale 1 in to 2 mi), accompanies Bulletin 12, 1963. \$2.00

Piezometric surface, Pembina district, NTS 83G. Farvolden, R.N.; 1 map (scale 1 in to 2.14 mi), accompanies Earth Sciences Report 61-4. \$2.00

Reconnaissance groundwater survey of the Oyen map area, Alberta, NTS 72M. Kunkle, G.R.; 3 maps (scale 1 in to 4 mi), accompany Earth Sciences Report 62-3. \$2.00

Reconnaissance groundwater study, Swan Hills and adjacent area, Alberta, NTS 83J, 83K, 83N, 83O. Jones, J.F.; 1 map (scale 1 in to 4 mi), accompanies Earth Sciences Report 62-5. mf \$2.00

Regional chemistry and water level distribution of the near-surface groundwaters of the Edmonton area (northwest segment), NTS 83H. Bibby, R.; various maps (scale 1 in to 4.8 mi) accompany Earth Sciences Report 74-6. \$1.00 each.

Regional chemistry of groundwater in the Wainwright area, NTS 73D. Hackbarth, D.A.; various maps (scale 1 in to 16 mi) accompany Earth Sciences Report 75-6. \$1.00 each.

Water well records, Peace River district, northwestern Alberta, NTS 83M, 83N, 84C, 84D. Jones, J.F.; 1 map (scale 1 in to 8 mi) accompanies Earth Sciences Report 62-4. mf \$2.00

Surficial geology maps

Surficial geology of the Alberta foothills and Rocky Mountains, NTS 83L, 83F, 83B, 82O, 82J, 82G, 82H. Bayrock, L.A., Reimchen, T.H.; 6 map sheets and 1 legend (scale 1:250 000), 1980. Sold only as a set. \$15.00

Surficial geology of the Bitumount area, Alberta, NTS 74E. Bayrock, L.A.; 1 map (scale 1:250 000), 1971. \$2.00

Surficial geology of the Cypress Hills area, Alberta. Westgate, J.A.; 6 maps NTS 72E (scale 1 in to 1 mi), accompanies Earth Sciences Report 65-2. \$6.00

Surficial geology of the Edmonton area, Alberta, NTS 83H. Bayrock, L.A.; 1 map (scale 1:250 000), accompanies Earth Sciences Report 73-2 and Bulletin 32, 1975. \$2.00

Surficial geology of the Edmonton area, NTS 83H. Kathol, C.P., McPherson, R.A.; 1 map (scale 1:50 000), accompanies Bulletin 32 as figure 23, 1975. \$2.00

Surficial geology of the Edmonton district, Alberta, NTS 83H. Bayrock, L.A., Hughes G.M.; 4 maps (scale 1 in to 1 mi), accompanies Earth Sciences Report 62-6. mf \$4.00

Surficial geology, Edson, Alberta, NTS 83F. Roed, M.A.; 1 map (scale 1:250 000), 1970. \$2.00

Surficial geology of the Foremost-Cypress Hills area, Alberta, NTS 72E. Westgate, J.A.; 1 map (scale 1:250 000), accompanies Bulletin 22, 1968. \$2.00

Surficial geology of the Fort Chipewyan area, Alberta, NTS 74L. Bayrock, L.A.; 1 map (scale 1:250 000), 1972. \$2.00

Surficial geology of the Lake Claire map area, Alberta, NTS 84I. Bayrock, L.A.; 1 map (scale 1:250 000), 1972. \$2.00

Surficial geology of the Medicine Hat area, Alberta, NTS 72L. Berg, T., McPherson, R.A.; 1 map (scale 1:250 000), 1972. \$2.00

Surficial geology of the Peace Point and Fitzgerald map areas, Alberta, NTS 84P and 74M. Bayrock, L.A.; 1 map (scale 1:250 000), 1972. \$2.00

Surficial deposits of the Peace River district, Alberta, NTS 83M, 83N and 84C, 84D. Jones, J.F.; 2 maps (scale 1 in to 8 mi), accompanies Bulletin 16, 1966. mf \$2.00

Surficial geology of the Rocky Mountain House area, Alberta, NTS 83B. Boydell, A.N., Bayrock, L.A., Reimchen, T.H.; 1 map (scale 1:250 000), 1974. \$2.00

Surficial geology of the House Mountain area, Alberta, NTS 83O. Kathol, C.P., McPherson, R.A.; 1 map (scale 1:50 000), accompanies Earth Sciences Report 74-5. \$2.00

Surficial geology of the Sand River area, Alberta, NTS 73L. Fenton, M.M., Andriashuk, L.D.; 1 map (scale 1:250 000). \$2.00

Surficial geology of the Vauxhall district, Alberta, NTS 82I. Bayrock, L.A., Jones, J.F.; 1 map (scale 1 in to 1 mi), accompanies Earth Sciences Report 63-2. \$2.00

Surficial geology of the Wabamun Lake area, Alberta, NTS 83G. Andriashuk, L.D., Fenton, M.M., Root, J.D.; 1 map (scale 1:250 000), 1979. \$2.00

Surficial geology of the Wainwright area (east half), Alberta, NTS 73D. Bayrock, L.A.; 8 maps (scale 1 in to 1 mi), accompanies Earth Sciences Report 67-4. \$8.00

Surficial geology of the Waterways area, Alberta, NTS 74D. Bayrock, L.A., Reimchen, T.H.; 1 map (scale 1:250 000), 1974. \$2.00

